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CONTENTS

		Page
1.	Primitive Religion, Social Organisation, Law and Government amongst the Santals, by P. C. Biswas, M.Sc., Humboldt Fellow, Berlin University	1—84
2.	An Ethnic Analysis of the Culture-Traits in the Marriage Customs as found among the Rādhiya Brahmins of Mymensingh, by Nirmal Chakravarti, M.A.	85—164
3.	Races of India, by Bhupendranath Datta, A.M. (Brown), Dr. Phil. (Hamburg) ...	165—248
4.	The Khasis, by Tarakchandra Raychaudhuri, M.A., P.R.S., Lecturer, Calcutta University	249—272
5.	Vital Capacity of Bengali Students, by Anathnath Chatterji, M.B.B.S,. Lecturer, Calcutta University	273—277
6.	OS malare bipartitum in Bengali Crania, by J. K. Gan	278—279

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PRIMITIVE RELIGION, SOCIAL ORGANISATION, LAW AND GOVERNMENT AMONGST THE SANTALS

BY

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CHAPTER I

Santal Religion.

The proper analysis of the religion of the Santals is as difficult as necessary for the history of succession of religious ideas in India and perhaps in the whole world. If there is any culture which still carries on the impress of the underlying philosophic speculation and order of thought that was widespread in India prior to the rise of the Dravidian culture, it was very likely the belief and social order of the Pre-Dravidian Santals. The Santals lying on the very tract of the Aryan, over-flooding Northern India (in fact very near the sacred triangular spot between Benares, Rajgir and Gaya, which witnessed the phenomenal Upanishadic speculation of the days of Janak and the rise of Jainism and Buddhism), could not but have been influenced by these and in their turn must have considerably left their mark on the folk-culture of Northern India. So in the pre-Aryan and pre-Dravidian culture of India, the Santals rather than the Mundas or Hos of Chota-Nagpur stand in the limelight. Similarly, their contact with Dravidian culture, which at one time was not at all confined to Southern India, is well proved from their neighbours, the Malers, who in language along with the Chota-Nagpur Oraons speak a Dravidian tongue.

In the study of the hypothetical development of religious ideas, the Santals figure prominently in the scheme of evolution. Thus Clodd cites them as an example of beliefs preceding animism. He says :

' This is very interesting considering the sway of the idea of impersonal universal spirit or *mana* so widely prevalent amongst the Austric-speaking people of which the Santals are a western peripheral branch. It is a subject for future enquiry, whether there had been any influence of Vedic or Upanishadic speculations of the universal supreme energy carried by these people in the migration eastward. There is a calling back of the shade of the departed common amongst these pre-Dravidian tribes of Chōṭā-Nāgpur which recalls the Vedic passages (Rigveda, Mandal 10).'

The enquiries of Pater W. Schmidt, probably inspired by the subconscious Christian idea of an early revelation to primitive man of the idea of a supreme personal god, have led to the finding of many instances of the primitive high-god in the first cultural strata of food-gatherers. The Santals fall in the category of the primary or secondary cultural strata in the scheme of Pater Schmidt. The idea of a supreme being or a personal high-god is well known amongst the primitive tribes of Central Provinces, Chota-Nagpur and Assam. Thus according to Dalton, he is called *Bero* by the Kharias, *Ote Boram* or *Sing Bonga* by the Hos, *Dula Deb* or *Pharsi Pen* by the Gonds, *Bura Penu* or *Bela Penu* by the Khonds. In Assam, he is known as the Father by the Abors, as old bearded Rishi *Salgong* residing in heaven by the Garos, as the creator *Pa-thian* amongst the Kukis and the great god *Arnam Kethe* amongst the Mikirs. The enquiries of Sir James Frazer in his " *Worship of Nature* " have led him to cite most of the Chota-Nagpur tribes as devotees of the Sun god as the supreme being. Rai Bahadur S. C. Roy thus has analysed the *Dharmes* or *Biri Bela* of the Oraons as Sun god. Similarly, according to him, the *Ber Pitia* or *Ber*

Chichha of the Malers is the Sun god and so also is the *Bhagavan* of the Korwas. The *Bura Penu* of the Khonds is also the God of light.

Coming now to the Santals we find almost all the authorities agreeing in conceding to them the idea of a supreme being. But there is a great diversity of opinion as to what he is called. According to Dalton (p. 213), he is *Sing Bonga* amongst the Santals of Chota-Nagpur. Risley (Appendix VII, p. 446, *People of India*), on the authority of Skrefsurd, says that the supreme deity is called *Thakur*. E. G. Man, working in Orissa about fifty years ago, gives (*Santhal and Santhalia*, Chapter VI) the name of the supreme being of the Santals as *Chando* or *Chando Bonga*. Bompass (p. 402, *Folklore of the Santal Parganas*) in one of his folklores describes that *Thakur Baba* had made everything very convenient for mankind, etc. Rev. Bödding, who is the most recent and exhaustive worker on Santal beliefs and customs specially in the Mohulpaharia area in Santal Parganas, gives the name as *Cando*, 'the creator, the only one who gives and restores life' (*Studies in Santal Medicine and Connected Folklore*). Bödding further says that this name is often confounded with Cando the Sun. My own personal enquiries in the villages in Katikund within Dumka Damin and in the village on the base of the Zalway Hill, in Deoghar Sub-division, in the year 1932, elicited the information that the general name for God is *Kando* and the name for the Sun in that area is *Sin Kando* and for the moon is *Ninda Kando*.

The Santal lives in harmony with the surroundings, having no temple and stooping to no idol made by his hand for the purpose of worship. It may be said as a child of nature living in rapport with all its surroundings, the hill, the dale, the spring or the grove are the objects of his reverential fear. They are the abodes of a supreme supernatural energy or the departmental spirits or the *bongas*. The *bongas* are friendly beings at times, but most often mischievous and naughty elves playing mischievous pranks with men, bringing them trouble and causing misery

at times. These *bongas* are supposed at times to harass humanity, to eat people (as the Santals express it) because they are hungry, displeased, hurt or envious, and this eating is the devouring of health and substance of the person exposed to the displeasure of the spirits. These spirits may further be used by, or themselves use, the witches as medium.

Thus in religion proper the main attitude of Santal society, towards the supernatural, is one of reverential fear in the presence of certain mysterious supernatural powers and beings and dependence on and propitiation to and prayerful submission to them, and the result expected is the averting of the ill-will and securing the good-will of the supernatural beings and good luck to man in crops and cattle, health and progeny.

The Santal religion is also not a little concerned with ancestral and certain other disembodied souls and Nature-spirits and deities. The rites employed to establish relations with them are mainly supplications and prayers, offerings of sacrifices and the ceremonial sharing of sacrificial food besides certain special observances and taboos.

The Santals believe that the supernatural influence is not often inimical and evil. Their idea is that there is no possibility of malevolent influence being turned to a benevolent or good one, the only practical question for them is how to stop it and, in the case of witches, how to stop and punish it. *Bongas* and witches know how to do evil to people but more often than not also how to do them good.

The Santal religion in its social aspect is essentially a tribal matter and has helped to strenghthen the social unity and quickened the sense of social responsibility and his concept of righteousness is bound up with his social or tribal consciousness. As the Santal society has not yet got much beyond a limited tribal consciousness, his conception of righteousness is not concerned with the essential or absolute standard of rightness of things.

One of the aspects of Santal religion which could be more observed to-day in the social side rather than any religious belief

and ceremonial, is the definite association of some of the exogamous clans and sub-clans with names of plants, trees and some animals, generally termed as totemism. Thus of the total of twelve clans nine are totemic and of the seventy-four sub-clans twenty-two are totemic, which are as follows :—

Clans.	Totems.	Clans.	Totems.
Besra	Hawk	Hasdak	Wild-goose
Hembram	Betel-palm	Marndi	Grass
Murmu	Nilgai	Saren	Constellation Pleiades
Pauria	Pigeon	Chore	Lizard
Bedea	Sheep		

Sub-clans.	Totems.	Sub-clans.	Totems.
Kahu	Crow	Kāra	Buffalo
Chilbindha	Eagle-slayer	Jihu	Bird
Gua	Areca-nut	Kachua	Tortoise
Nag	Cobra	Somal	Deer
Buru-birit	Hill	Kekra	Crab
Roht	Panjaun tree	Boar	Fish
Ganr	Fort	Handi	Earthen-vessel
Sikiya	Chain	Barchi	Spear-men
Mundu or Badar	Dense Jungle	Sidup	Bundle of Straw
Agaria	Charcoal-burner	Dantela	Breed pigs with large tusks for sacrificial purposes.
Lat	Bake meat in a leaf platter.		
Roh-Lutur	Ear-pierced		

None of these appear to be associated with the idea of culture heroes as amongst the Amerindians. The folk-lore shows indeed some stories centering round the plants (betel-palm, Panjaun tree, Sabai grass) and animals (tiger, jackal, leopard, crab). Besides these some of the clans' names centre round industrial objects and articles of usefulness such as chain, Earthen vessel, etc. These would be more in line with a belief in objects possessing *mana* and venerated as such and gradually getting associated with exogamous sub-divisions who might have had a hand in the invention or diffusion of those useful objects. There is no seasonal recurring ceremonial round these objects meant for the preservation or propagation of the animals or plants venerated as ancestors as in Australia. There is indeed some taboo to the use by the particular sub-clan of the plant and animal venerated as its ancestor. The animal and plant thus venerated are taboo to the clans ; none can hunt it, nor can they partake of its flesh. But for the observation of this taboo the Santals are in no sense plant and animal worshippers. It seems that their idea of *bongas* inhabiting all creeks and corners of nature, have been extended only to the region of certain animals and plants. In the folklore the *bongas* are generally represented as using seats of hooded cobra and certain serpents are naturally venerated as clan-ancestors ; on the other hand, the common water-snake (*Dhamna*) is eaten by almost all the Santals. Of the animals not eaten by the Santals all are not associated with clan-names such as the Frog, Gibbon, Elephant, Dog, etc.

If the religion of the Santals may thus be described as veneration of a Supreme Being and reverential awe or fear of certain good or evil spirits surrounding him, his practical life may be said to centre round certain other pseudo-scientific or magical rites and ceremonies. He is constantly trying to dodge, control or press into service the innumerable mischievous spirits (*bongas*, etc.) and forces (*tejo*, etc.) that bring all the misery and disaster in life.

Thus in magic the attitude of the Santal is mainly one of defiance of control and domination over unseen mysterious powers and the result intended is the expulsion of evil or compulsion of natural or supernatural forces and powers in the production of desired favourable conditions or results. The Santal magic referred to above, is primarily concerned with mysterious impersonal forces and powers residing mostly in natural or artificial objects and the instruments employed in dealing with them are principally charms and spells, adjurations and incantations as also certain traditional observances and taboos.

As has been beautifully and lucidly explained by Mr. Roy in the case of the Oraons, the Santal attitude to religion and magic is not mutually exclusive but complementary and supplementary. His magical practices are the result or part of his science and constitute his applied pseudo-science. They never crowd out those simple religious rites of veneration to and propitiation of the mysterious author of our being. But whereas in daily affairs of life of the civilized man the scientific physician is at hand, the Santal, like other primitive people, has recourse to his Medicine-man and Bonga-doctor. These latter come with their knowledge of herbs as well as the mysterious processes of evil caused by malevolent natural or human agencies and profess to cure the Santal of his daily ailments and afflictions. Thus the magic ritualism is the speciality of Santal society and centre of the individual's life, whereas the religious ceremonials are more or less communal group affairs. The complicated cross section of the Santal belief would be well studied in the functional differentiation of the communal priest, the *Ato nacke*, his assistant, *Kudam naeke*, and *Dehri* (hunt-priest), the herbalist medicine-man, the Bonga-doctor or *Ojha* and the witch-detector or *Jan-guru*.

Different Types of Religious Functionaries, Medicine-men, etc.

Amongst the Santals working in the Daminiko area where they are closely concentrated, it was curious to notice many

functionaries named as *Ojha, Jānguru, Kāmruguru, Rārānic, Ato-Naike, Kudam-Naike* and *Dehri.* The Santal carefully draws a distinction between the officers of his social ceremonials, the high priests of the community and the specialists who may be described in modern terms as the practising physicians and the mental disease experts, the last of course not being psychopathists but masters of spiritualist seances. The sorcerer who practises evil eye and witchcraft is also sharply distinguished.

Studying the other allied tribes near by we find mostly a distinction between the social functionary in charge of religious festivals sharply distinguished from the spirit-doctor generally possessing second sight. The term for the priest is *Nāyā* amongst the Birhors and *Pāhan* amongst the Mundas and Oraons. The word *Nāyā* as also *Nāike* may have some connection with the Hindi word *Nāyak* or leader, a term often used in the old Hindu army for lieutenants. Mr. Roy shows the Birhor Naya in a plate as *Rājā* or chief,[1] similarly, the word *Pahan* may be equated with Hindi *Pradhan* or chief. These indicate the power of the religious functionary in the state. It cannot be said, at least from the study of the Chota-Nagpur tribes as well as those of Assam, that the medicine-man developed into the king, for in both the areas we find the temporal chief superior in authority to the ecclesiastic functionary. But the terms themselves show that the religious functionary is given a considerable recognition in temporal status. It is possible Hindu missionaries in bygone days might have exercised temporal and spiritual authority from which these tribes again recovered, re-establishing their own indigenous superiority of their secular chief or headman.

The term for the spirit-doctor with second sight is *Mati* with most of the primitive tribes of Chota-Nagpur. The Mundas, the Birhors and the Oraons all call their spirit-doctor *Mati*, the Hos of Seraikella call him *Ojha.*[2] The Santal term *Ojha*

[1] S. C. Roy's The Birhors, p. 340, Plate XXVIII.

[2] A. Chatterjee and T. Das, Hos of Seraikella, Part I, p. 28.

has rightly been objected to by Rev. P.O. Bödding as a Hindi loan word derived from *Upadhyaya*.[1] But we think he goes too far when he says that the whole system of Ojhaism is derived from the Hindus. Similar practices in Hindu society may be sometimes detected in the lowest strata and also under even the mystic Tantric ritual. They have been always branded in Hindu scriptures as practices of the lowest order, a sort of getting power over *ghosts, pisāches* and *bhuts*. The Gita[2] calls the worshippers of the *prets* and *bhuts* as *tāmasic*. Thus they are to be looked upon as survival of a *pre-Dravidian* stage of culture in Hindu Society. From the widespread occurrence of the word *Mati* it would seem that the Santals have lost their own original term and adopted a Hindi loan word as they possibly did in the case of the word for the supreme being, *Thākur*. The tendency to change the name can be traced amongst the Oraons due to a recent semi-Hindu and semi-aboriginal religious revival movement known as the *Bhagat*, comparable to the similar Kharwar movement amongst the Santals. The *Mati* is called Bhagat as the most dignified term for a Baiṣṇab devotee. A change of outlook has also taken place in making the spirits no longer malevolent and the aspect of mercy and grace under Baiṣṇab influence have been emphasised, comparable to the changing of many of the pagan gods of Europe into Roman Catholic patron saints.

Hunting being one of the most absorbing occupation of all these tribes a special functionary for hunting occasions is quite natural. Amongst the Santals the *Dehri* still maintains his own ; amongst the Birhors the *Diguār* or *Kotowār* has sunk to the position of an assistant to the priest *Nāyā*.

[1] Rev. P. O. Bödding, Studies in Santal Disease and Connected Folklore, Part I.

[2] Chapter 17, Verse No. 4 :

यजन्ते सात्विका देवान् यक्षरक्षांसि राजसाः।

प्रेतान् भूतगणांश्चान्ये यजन्ते तामसा जनाः॥

(a) *Raranic or Herb-Doctor.*

In his individual ailments the Santal recognises the disease to be due to either of the three causes as mentioned by Dr. Clements,[1] such as :—

1. Natural causes,
2. Human agencies,
3. Supernatural agencies.

Naturally different functionaries are called upon to remedy the different items.

The man called upon to treat the diseases due to natural causes is the *Raranic* who comes nearest to our modern practising physician. He is a master of many herbs and simples. Like the modern physician he has faith in his drugs and herbs and looks askance on the practices of the spirit doctor or *Ojha* and his hocus-pocus. He learns his trade as an apprentice to an old practising *Raranic* who jealously guards the secrets of his herbs and prescriptions. They say that their knowledge is derived mostly by observation of animals attacked with disease and the way these cure themselves. He folllows the diseased animal in the jungle and marks the herbs or roots. From the encyclopaedic list of prescriptions collected by Rev. P. O. Bödding and Mrs. Bödding, M.B., one would infer that the Santal medical treatment has not been entirely conservative. There are indeed several items which could be taken as survival of primitive prescriptions such as the use of animal refuse or insect preparation, reminding us of the cauldron of Macbeth's witches. But the majority comprises of herbs and sometimes also minerals, leading one to suspect strongly the influence of Hindu indigeneous Kaviraji treatment which had been universally adopted (ancient Hindu medicinal treatises having been translated into Arabic and

[1] Forrest E. Clement's Primitive Concepts of Disease, University of California Publications in American Archaeology and Ethnology, p. 186, Volume 32, No. 2, pp. 185, 252, year 1932.

passed through it into mediaeval European pharmacopœia). Thus for instance the use of *Rasa-Sindur* is distinctly Hindu, the word *Rasa* being the old Hindu word for a form of preparation of mercury. Similarly, some names such as *Kababchini* or tobacco-water show post-Mahomedan adoption.

It may be mentioned here that there is a seasonal ceremonial called *Ranjagao* for the vitalising or blessing of medicinal plants in general, at the time of the autumnal *Dasai parab*. This has no reference to any special ingredients but increases the effectiveness of medicine in general. There are certain instructions given as to the time and mode.

The method of diagnosis, generally followed, is by feeling the pulse as amongst the Hindu Kavirajes.

(*b*) *Tejo Theory.*

The Santal calls in the *Raranic* for diseases due to natural causes. But he also has a theory of disease which in his scientific viewpoint is as natural a cause as infection caused by bacteria. But we can look upon it as an agency which is natural and yet supernatural and sometimes also diffused with human agency. According to them diseases would be caused by a *tejo* which may be large or very microscopic. These *tejos* are located in different parts of the body, some at the root of the nose and some at different parts of the body. Rev. Bödding gives a detailed description of this theory,[1] where he describes how there is a belief of *tejo* causing leprosy or hydrophobia, etc., how these *tejos* enter the body through food, etc. The *tejo* germs are often believed to be collected by witches for spreading disease amongst people. In the first place naturally the herbalist tries his drugs but this failing the witch-doctor is called.

The Tejo theory of disease falls in line with what Dr.

[1] Rev. P. O. Bödding, Studies in Santal Disease and Connected Folklore, Part I, pp. 6-8. Memoirs of the A. S. B., Vol. X, No. 1, pp. 1-132.

Clements[1] calls disease-object intrusion. Dr. Clements in his study has apparently left out (at least he has not specifically mentioned) the important pre-Dravidian tribes of Chota-Nagpur such as Santals, Hos, Mundas, etc., and thus in his distribution map No. 2 this portion of India is not shaded as it ought to have been. He has shown this idea to be almost universal in the New World and extended up to Siberia. Another area is shown in South-Eastern Asia and the Santal under consideration would show a continuous distribution of this from Chota-Nagpur to the Pacific area. Other centres in Europe, Western Asia and Africa are recorded as being capable of tentative connections with the area of the Santal and South-Eastern Asia. The *tejo* concept of the Santal is identical with the disease-object intrusion concept in other areas. According to Dr. Clements (to whom the Santal area is unknown) " the criterion is the actual presence in the body of a tangible, supposedly pathogenic substance. Now although the exact nature of this substance varies considerably, such variation is quite haphazard. That is to say, there is no regional differentiation, the most common intruders being small pebbles, bits of leather, sticks, little bones, hairs, coagulated blood, insects, and even small animals." [2] The idea of dental diseases due to worms in the teeth is not only known in the Santal area but is common in Bengal and perhaps other parts of India, and is treated in India generally by wandering gypsies called 'Bedia' who might have been a distributing agency of this idea in other parts of the Old World. The distribution of the disease-object intrusion concepts in South-Eastern Asia, and perhaps in Western Asia also, may be centered in India if we take the whole as a continuous area of which information has not been collected from some parts of Persia, The old Hindu theory of fever (*Jvara*) is that it is brought about by an intruding disease-demon (*Jvarāsūr*) which finds its

[1] Dr. Clements, *op. cit.*, p. 209.
[2] Dr. F. E. Clements, *op. cit.*, p. 211.

way into the body of the afflicted through a disease-object. Could it be suggested that the disease-object intrusion idea was taken up by the Hindus from an earlier surviving primitive concept and incorporated into the systematized medical treatment through which it diffused to Western Asia on the one hand and Indonesia on the other ? More knowledge of Chinese and Indian mutual influences on the medical systems of both countries might bridge the gulf between the areas of South-Eastern Asia and Ainu-Sibero-American zone.

(c) *Spirit Intrusion and Witchery.*

There is a strong belief almost universal amongst the Santals that disease is also caused by the presence in the body of a malevolent *bonga, i. e.*, evil spirit, ghost or demon. Dr. Clements has drawn rightly a distinction between a spirit intrusion and spirit possession.[1] Amongst the Santals the most respected person would be the *Ojha* who would work for good, being 'possessed' by a spirit. Whereas all the evils and secrecies are due in their belief to the intrusion of the *bongas*, often worked to that effect by that most hated and feared human set, the *dains* or witches. It is further curious to observe how the concepts of sorcery, breach of taboo, and *bonga*-intrusion have become closely interwoven with each other in Santal thought. The spirit or *bonga*-intrusion is generally aided by the human agency of the sorceress—but the witch of the intruding malevolent *bonga* would be powerless to offend unless the victim had committed some breach of taboo. The witch-doctor who is called in aid of the diseased, first of all enquires carefully about the conduct of the patient so as to find out the nature of the breach of the taboo which has enabled the evil *bonga* to intrude and then with the help of expiatory rites and superior spirit-aid he drives away the intruding evil *bonga*.

[1] Dr. Clements, *op. cit.*, pp. 216-225.

Spirit intrusion, according to Dr. Clements, is probably considerably later than disease-object intrusion and had undergone considerable diffusion before the full Neolithic period of Western Asia. Clements has further shown that belief in disease causing sorcery is distributed to the ends of the earth. It is of almost universal occurrence in the Old World and extends from the north to the south even in the New World. The basic idea has been suggested to be possibly due to the " Elementargedanken " of Bastian.

The mechanism of sorcery in the area is either by magic as amongst the Andamanese or by shooting a magic bow or '*bān*' into the victim or extracting some internal parts of the victim as amongst the Australians.

Sorcery in the Santal area, according to Bompass, is practised by forms of magic as amongst the Andamanese.[1] The District Gazetteer records how the witches draw the picture of a person to be harmed and the image is then maltreated or symbolically killed by the process of imitative magic. They also would bury tufts of hair with vermilion or *sindur* which being in contact with the victim's body are subjected to a process of contagious magic and the victim is expected to fall ill.[2]

Similarly, on the authority of Bompass, we know that supernatural agencies or malevolent *bongas* are directed by witches to kill a man on a certain day, or the witches bring about misfortune on other men by ordering their *bonga* husband to do so and nagging them on till they commit mischief. Amongst the Birhors Mr. Roy records how the familiar spirit is directed towards the victim's house towards which she threw some rice. The Oraon *modus operandi* of witchery as recorded so fully by Mr. Roy brings this area more in line with Australian practices. The employment of the magic arrow or '*bān*' is a belief widely distributed in North-Eastern India. The magical extraction of the victim's vital organs which among the Australians

[1] Bompass, Folklore of the Santal Parganas, p. 429.
[2] Bengal District Gazetteer (Santal Parganas), p. 123.

is the kidney fat, is amongst the Oraons believed to be the heart, whilst amongst the Santals it is supposed to be the liver as our informant told us. Bompass also records an incident where a witch was surprised while extracting the liver from a body in order to eat it.[1]

Witchery through the evil eye is a belief rampant not only amongst the Santals but amongst other more cultured peoples of North-East India. It is also found amongst the Birhors, Hos and Oraons.

It is curious to observe how, though the Oraons have both male and female wizards and witches, the Santals ascribe this evil only to women. Their tradition, as recorded by Bompass, fully brings it out [2] :—

" Once upon a time Marang Buru (principal deity) decided that he would teach men witchcraft. In those days there was a place at which men used to assemble to meet Marang Buru and hold council with him, but they only heard his voice and never saw his face. One day at the assembly when they met Marang Buru he told them to come to him in their best and cleanest clothes for he would teach them witchcraft. All then went home and told their wives to wash their clothes well against the fixed day as they were going to Marang Buru to learn witchcraft. All the women made a plot to learn it by making their husbands drunk on the appointed day and they then wearing the dress of the males went off to Marang Buru to learn witchcraft in place of their husbands. They then went to Marang Buru but Marang Buru did not detect the imposture and taught them witchcraft. After their return however their husbands came back to their senses and they at once went to Marang Buru to learn witchcraft. Marang Buru said ' I taught it all to you this morning, what makes you come again.' They were astonished at this and protested that they had not been to him at all that morning.

[1] C. H. Bompass, *op. cit.*, p. 421.
[2] C. H. Bompass, *op. cit.*, p. 422.

Marang Buru said, 'Then you must have told your wives what I forbade you.' They gave an answer in the affirmative. Marang Buru then taught the science of Ojhaism and Jan in order that they might have some advantage over their wives, and be able to overawe them. This is why only women are witches and men are Ojhas and Jan-gurus."

Women, who are witches, of several neighbouring villages meet under some trees on a secluded place at some distance from human habitation generally on a Sunday at dead of night of a new moon. There, it is said, they strip themselves of their clothes and wear only the fringes of old brooms made of wild grass suspended from a girdle round their waists. Thus arranged the naked women hold the witches' dance. They have their peculiar secret songs and *mantras*, perform sacrifices and also try to kill people by magic very much in the same way as the old witches of Europe. It is particularly on the night of *Amawasa* (new moon), in the month of Kartic that these witches' dances are celebrated with special eclat. Large companies of witches, it is said, move about that night and people are afraid of stirring out of their houses at a late hour that night. New girls are initiated on that night into the mysteries of witchcraft. When girls are initiated into witchcraft they are taken away by force, and are taken to all the most powerful *bongas* in succession, and taught to invoke them. They are also taught *mantras* and songs and by degrees they cease to be afraid. The beginner is made to come out of the house with a lamp in her hand and a broom tied round her waist. She is then conducted to the great *bongas*, one of whom approves of her and when all have agreed she is married to that *bonga*. After this she can also marry a man in the usual way. When the girl has learnt everything she is made to take her *Sid-atang* (degree) by supposedly taking out a man's liver and cooking it with rice in a new pot ; then she and the young woman who is initiating her, eat the feast together ; a woman who has eaten one such stew is said to be completely proficient and can never forget what

she has learnt. If any girl refuses to take the final step and will not eat human flesh she is caused to turn mad or commit suicide. Those however who have once eaten human flesh acquire a craving for it.

Should any outsider happen to come their way during these dances and sacrifices, the stranger is challenged and if he be found to be a mere wayfarer and not an inquisitive spy, he is warned on pain of death not to speak to any one of what he may have seen or heard. On his promising not to utter a word about it he is permitted to depart. Should he prove faithless, it is said, he is sure to be killed by magic. We are citing below a story about this from Bompass (*Folklore of the Santal Parganas*).

In the village of Mohulpahari there was a youth named Jebra. One night when he was coming back very late he met with a crowd of witches standing under a hollow Mowah tree.

He managed to struggle free and run off. Two days after this those witches caused him to fall from a tree and break his arm. *Ojhas* failed to cure him. The arm stiffened and maggots formed and in a few days Jebra became speechless and died.

How strong the belief of witchery amongst the Santals is even to-day could be easily judged from the following case of actual witch-murder reminding us of England and Europe a few centuries ago.

A Santal of the name of Mangal Soren of the village of Bijaipur, in the district of Santal Parganas, murdered a Santali woman of the name of Gaura Murmu believing her to be a witch who had caused the death of Rajam, a Santali, through her witchcraft. The case was heard at the Patna High Court by Justices Culwant Sahay and Sir T. S. Macpherson on 5th January 1933. He (Mangal Soren) was convicted and sentenced to death.[1]

1 Reported in a Calcutta daily paper, *Amrita Bazar Patrika*, 7th January, 1933.

Spirit Doctor—the Santal Ojha.

A type of Shamanism is present in full swing amongst the Santals though the authority of the headman is always strong and respected. The *Shamans* amongst the Santals have degenerated into mere physicians with higher types of knowledge which in their theory entails communication and, partly, control of the supernatural world. Thus when the herbal doctor fails, men with knowledge of divination and favoured by *bongas* are called in. There is no female *Shaman* as the female with supernatural power is always looked upon as wicked, malevolent and persecuted as witches. So it is to pit his higher knowledge against the wicked machinations of the witches that the *Jan guru* or *ojhas* are called who thus are important social functionaries curing individuals of their constant depression due to fear of sorcery and the evil eye or acting as village mental sanitation officials. Thus these Santal medicine-men, soothsayers and masters of incantations have to work hand in hand with the chiefs.

The name *ojha*, which the Santal uses, is not a Santal word; it is a Hindi word, used for diviner, enchanter, sorcerer, magician, etc. The word is derived from Sanskrit. The Santal has borrowed this word from the Hindi-speaking people. Rev. P. O. Bödding is of opinion that the Santal has adopted this exorcism from the Hindi-speaking people. His argument in favour of it is that the work of a Santal *ojha* in nature partly resembles that of the Hindu *ojha* and the special *bongas* invoked by the Santal *ojhas* all have names of Hindu origin in addition to their special *bongas*. But a tribe which believes so much in spirits (both malevolent and benevolent) must have some method of propitiation of those spirits as is usual among almost all the primitive tribes of the world.

The *ojha* is also a physician. The difference between the herbal doctors and the *ojha* lies in the fact that the former gives only medicine whilst the latter in addition to giving medicine will try

to drive away the disease by magic incantations, etc., by the assistance of his special *bongas* whom he knows how to force to work. The *ojha* also professes to know how to find out and deal with the possible supernatural powers at work.

The *ojha* first feels the pulse,[1] sees the tongue of the patient and after having diagnosed the case he tries to drive away the complaint by uttering magical formulas or singing *jharui* songs over the patient. These *mantras* and *jharuis* differ in every disease.[2] After uttering the *mantras* the *ojha* blows over the patient commencing at the head and finishing downwards and towards the back. When the *mantras* or *jharuis* or both have no effect, as they naturally never have in cases of disease, the next thing the *ojha* will do is to call for Sal leaves and a little mustard oil (which the Santals call *Sunumbonga*, *lit.* oil offering). With these he verifies the correctness of his diagnosis, arrived at by feeling the pulse, seeing the tongue, etc. Having done this he then gives necessary instructions as regards food and treatment and himself brings or orders for the ingredients wanted for the medicine to be given. The *ojha* is very particular not to divulge the secrets of his profession. Once in the Sundar Pahar village within Godda Danin in Santal Parganas a little boy was ill. The *ojha* of that village was called by the father of that little boy to see and give him necessary medicine. He brought the root of a tree from the jungle and gave the little boy the juice of that root as a cure. I asked the *ojha* the name of the tree but he never divulged the name of the ingredients of his medicines to me inspite of my repeated request. If the patient is not cured they call in some other more competent *ojha* from another distant village. Sometimes the *ojha* takes another means to detect the disease and the name of the *bonga* who is making the mischief. This

[1] According to their idea if the pulse comes towards the thumb or index finger it is a sign that *orak bongas* (house *bongas*) are hungry. If the pulse comes towards the middle finger the *abge bongas* (tutelary *bongas*) are hungry, if towards the ring or little finger a *bonga* of the field or outskirts is at work.

[2] Rev. P. O. Bödding, *op. cit.*, pp. 1-82.

the *ojha* does by means of a twig of Sirom broom and drawing certain squares on the earth. (This is called "*Tarik*" by the Santal.)

The *ojha* adopts the following methods to cure the disease of the patient :

(1) *Adwa chaole* and *Bul mayam*.

(2) Disease localised at one point of the body and the evil cured by biting and sucking, *i.e.*, by sucking out the intruding disease-object.

(3) *Bongas* removed by digging.

(4) *Bongas* exorcised.

(5) Medicine administered.

How a Santal becomes an *ojha* : the method of initiation.

Among the Santals two kinds of *ojhas* can be seen : those who learn for pleasure's sake and those who learn seriously and earnestly. In the case of the first no initiations are required after the learning is over whereas in the second initiation is the essential part of the learning. To become an *ojha* (both professional and amateur) one has to be a disciple under an expert *ojha*. The first course commences on the middle of Jaishtha (May and June), their first sitting being on a Sunday or in some cases on a Friday. Every day they come to the house of the *guru* after taking their meals. They take their seat in the courtyard of the *guru's* house. In the courtyard there is an elevated place, square, sometimes rectangular, the size generally being $1\frac{1}{2}' \times 1\frac{1}{2}' \times 1'$ (high). It is made of earth, and a *Tulsi* (*Ocymum Sanctum* L.) plant is planted in the centre of the mound over which a shed is erected. The shed is so large that it can easily accommodate 10 to 12 persons. The shed is erected by the unmarried disciples ; married ones have nothing to do with the erection of the shed. The posts of this shed are of *sal* wood. In the centre of the shed a hen's egg and a *chir sakom* (a thin kind of iron wristlet or arm ornament) are kept for preventing witches from molesting them. The course lasts for four months.

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A woman cannot be an *ojha*. The first act of the *ojha* is what is called *Akhra rara* which means performing the opening ceremony, to ensure that all may go well and without any hindrance. The first evening the disciples bring along with them some *sindur* which is given to the *guru*. In five different places in the courtyard the *ojha* makes vermilion marks in the name of the following five different *bongas* :

(1) *Kamru guru* (the reputed first teacher of *ojha* science to the Santals),
(2) *Sin Bonga* (the sun),
(3) *Kali mai* (the goddess Kali),
(4) *Dibi mai* (the goddess Durga),
(5) *Ganga mai* (the Ganges goddess).

The following invocation is offered to all of them by him only by changing the names of the *bongas* :

"Nokoe, kamru guru (or others as the case may be) amin tikawam kana ; nokoe cela koṛako duṛup akana ; ado ninda nuta ko hijuka calakako ; tobe badi bairi noko cela alo baṛe lagaoako ma alo jemon hoe husit, tatka birki hoyok ma ; nae napae baṛeko hijuk calak mako !"

(*English Translation.*)

"Here you see, *Kamru guru*, I am making a mark for thee ; here, you see, disciples are sitting ; they will come and go at night in darkness ; then may malevolence and enmity not come in contact with these disciples ; may there be no spell of an evil eye, no sudden fright ; in perfect safety may they come and go."

After having invoked the *bongas*, the *guru* utters the opening *mantra* which is as follows :—

"Akhṛa khollom, makṛa kholo, ke khollom? Guru khollo, guru gita ; malkhollo khollom siri kahri gita kamru dohal khallo."

[1] P. O. Bödding, *op. cit.*, p. 47.

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(*English Translation.*)

"I have opened the place of performance. I have opened the site of performance. I have set free the stools to sit on. Who has set free (or opened) ? The *guru* has set free, by the *guru's* knowledge; the mother (likely Kali) has set free ; I have opened by the knowledge of *Sri Kahri*, by the grace of *Kamru* I have opened." [1]

When these preliminaries (opening ceremonies) have been gone through all is ready for the commencement of teaching.

The course is as follows :—

The course for learning *mantras*.

(1) *Mantra* to drive away disease as the supposed supernatural cause of any disease.—The *mantras* are different for different diseases.

Jharui.

(2) *Jharui* is also different for the different cases, and used only in connection with certain complaints ; the *Jharui* is sung in a special melody that differs somewhat according to the words; the disciple has to learn the words, the melody and the manner of application.

(3) The songs to be used at the *Dasãe daṛan*, the dancing and begging wandering, when the course is finished off.

(4) The special dances and play-acting and how to be possessed (*rum*).

(5) Medicines to be used when *mantra* or *Jharui* or both are ineffective.

The details of these five courses have been fully discussed by Rev. P. O. Bödding in his *Studies of Santal Medicines and Connected Folklores* (*Memoirs of Asiatic Society of Bengal*, Vol. X, No. 1, pp. 1-132).

In order to become a full-fledged *ojha* it is necessary to receive *sid* (a Santali word which means initiation).

[1] Rev. P. O. Bödding, *op. cit.*, p. 58.

The course of instruction given above is brought to its conclusion shortly before the *Dasãe daṛan*. Only a very few of the disciples receives *sid*, or care to go so far. It is not the case that the *ojha*, under whom they get their training, declares that a disciple is now ripe for getting initiation, but the disciple requests the *ojha* for his final touch. The *ojha* agrees if he thinks that he may be able to work independently. The *ojha* then demands the following things for the function : A new loin cloth, a goat, a pair of pigeons and some fowls and one to five rupees.

When the disciple makes these things ready the *ojha* with his wife goes to the house of the disciple and gives the *sid* there. The *guru* and *chela* first go and bathe. Coming back they clean some place in the courtyard with cowdung and the *ojha* here puts down a few small handfuls of *adwa* rice and makes some vermilion marks at each small heap of *adwa* rice (the number of heaps vary according to the number of sacrifices to be made). The loin cloth is then spread over the courtyard, the *ojha* takes his seat on it and performs the sacrifices ; the *chela* holds the goats, the fowls and the pigeons whilst the *guru* beheads them. In one of the corners of the loin cloth the money to be given to the *guru* is tied up and when the sacrifices are performed he takes the cloth and money.

Sunum Bonga or Divinition by Oil and Leaves.

By this means the Santal *ojha* finds out the final cause or origin of disease and death. The *ojha* demands the following things from the person who engages the *ojha* :

(1) Sal tree leaves (*Shorea robusta*, Gärtu).
(2) Mustard oil.
(3) A little water.

The *ojha* then squats down and jerks his head a couple of times and then he dips the index-finger of the right hand in the mustard oil and sprinkles a few drops towards the sun and then he draws a mark of oil with the same finger

on the earth. The *ojha* then takes a *sal* leaf and looks intensely over it and then takes another look over it in the similar way. A *sal* leaf has a number of veins which divide the surface into several compartments. In different places on the surface of a leaf the *ojha* drops oil with the index or middle finger of the right hand uttering at the same time what each oil mark is to stand for, *viz.*, the supposed possible cause or origin of the patient's disease. The Santals believe that one of the following causes brings disease, death and misery :

(1) Natural causes,
(2) Human beings,
(3) *Bongas*,
(4) The spirits of ancestors.

The *ojha* in the above way puts marks here and there on the leaf, at the same time muttering to himself that this is for such and that for such, and a third for something else, and so on, whereupon he commences to rub each mark in with his finger. Whilst rubbing the *ojha* mutters some *mantras*. The Santal *ojha* uses different names for oils and leaves in the *mantra* ; if the particular kind used should not be mentioned in the *mantra* the magic would be spoilt.

"Tarik" or Detection of Disease by Sirom Broom.

The Santal *ojha* draws a number of squares side by side on the earth with a twig or handle of a Sirom broom. At first three long lines are drawn parallel to one another on the ground and then a number of short lines are drawn across the above three lines, thus getting a figure with the help of a number of squares. The *ojha* then fixes the twig in each square in the ground.[1] He then takes out the twig from the figures and touches the twig with his forehead and destroys the figures drawn. He repeats the operation a couple of times. When saluting the

[1] If he uses a broom he keeps this in a vertical position, handle down, for a little while.

twig, a disease is mentioned; if the hand trembles, it is the disease then just named.

By means of the above operation the *ojha* also finds out the *bonga* who has done this mischief.

The *ojha* with the handle end of a broom of Sirom (*Andropogon Muricatus*, Retz., *Straw*) draws a circle on the earth by sitting on his haunches facing the east. In the centre of the circle the *ojha* puts the handle end of the broom down and then he salutes the broom by taking it out from the circle. Uttering the name of a *bonga*, he again puts the handle end of the broom in the centre of the circle and salutes it by raising it and at the same time utters the name of another *bonga*. In this way he repeats the operation several times until his hand holding the broom commences to tremble (not intentionally). Then he knows it is the *bonga* just named who is making the mischief.

Adwa Chawla and Bul Māyām.

By this the *ojha* propitiates the spirits of the outskirts of the village. The *ojha* calls for some *adwa chawla* (rice husked without having been boiled previously) and for a little vermilion which he packs in a leaf of *sal* tree and instructs the patient to touch this with his left hand. The *ojha* with the "Kartā" of the house comes out of the house. Here the *ojha* pricks his body with a thorn of *jujube* tree. The blood that comes out is smeared on the rice; the *ojha* then scatters this rice on the ground as an offering to the *bongas* and will at the same time invoke the *bongas*. Blood is given to satisfy a malevolent spirit. Seeing or tasting blood the *bongas* are very pleased and are quickly ready to listen. This offering of blood is called administering *bul māyām*; '*bul*' means to be drunk and '*māyām*' means blood.

The *ojha* then washes the parts where he has pricked himself and sprinkles a little water on his head.

After the *bul māyām* performance the *ojha* may take some other precautions. He calls for a *Rombro sim* (a thieving fowl).

They bring him a *lisa sim* (a fowl with feathers reversed, its colour must be other than white). The *ojha* gets some charcoal and burnt clay (from the inside of a fireplace) ; he then grinds these two separately and puts temporarily aside wrapped up in two leaves. The *ojha* has brought with him a leaf of *sal* tree on which he has performed *Sunum bonga*. This he performs near the patient. He first draws a circle on the floor with a small bit of wood the diameter of which is about 12 inches. Inside this circle he makes a number of marks resembling those on the leaf ; he then spits on the drawing within the circle and puts his left heel heavily down on it and finally with the same left heel rubs out the marks he has drawn. He performs this operation several times. During this time the *ojha* remains silent. The object is to undo the deception of a possible witch. After this, he puts a leaf-plate on the ground, draws a circle on it and puts some burnt clay from the fireplace and then makes cross marks by powdered charcoal. He destroys the figures by dropping powdered rice over them. He repeats the process two or three times and then puts his heel down in the centre of the figure on the leaf-plate, and ultimately bites the plate with his teeth and in this way turns it over. Next the abovementioned fowl is given into the hand of the *ojha*, and he applies vermilion (*sindur*) on its head after having washed it with water. The patient is then brought before the *ojha* and sits down in front of him. The *ojha* asks the patient to touch the fowl and makes the fowl feed on the rice kept on the leaf-plate.

Next the *ojha* performs a very important function with the patient which is known as *buḷan*. He takes the fowl and moves it thrice round the patient making a circle alternately from right to left and thrice alternately the opposite way, passing the fowl on its way between his legs from behind and forwards ; the fowl is first taken in the right hand round the patient, passed between the *ojha's* legs from behind underneath the right thigh ; here the *ojha* takes hold of the fowl with his left hand

and passes the fowl round the sitting patient and beneath his left thigh when he again changes hands.

With the cowdung the *ojha* obliterates the traces of the circle he at first drew with the twig. Again he, with the little finger of his left hand, draws a square mark on the ground, and within this square the *ojha* pinches off a little earth, mixes it with cowdung and rolls it into a ball. This ball he keeps into a cup of water, only to clean it. The *ojha* then throws some ashes into a leaf-cup with water.

Then the *ojha* takes the leaf-wrapped charcoal and *etko* and whatever else he has used for making figures, etc., and, wraps these things in a leaf-plate. Taking the leaf-plate and the fowl in his hand the *ojha* walks out of the house of the patient without casting his look backwards. The people inside the house now take the two cups and throw the water after the *ojha* and quickly close the door. Followed by some of the village men the *ojha* goes straight to the forest or to some other place away from that quarter. Here he sacrifices the fowl in the name of some *bonga* of the outskirts offering an invocation. Some kill the fowl and eat it forthwith while others sacrifice the fowl by wringing the fowl's neck. In this case, however, they do not eat it but leave it on the spot with some pieces of stone thrown over it. The last procedure is the most common. The *ojha* after having done all this returns to the house of the patient where he brings down oil and vermilion. He makes some mark in the courtyard with vermilion, at the same time making a vow of offering sacrifices to some special *bonga* of his when the patient recovers.

The Jan Guru or the Witch-detector.

The word *Jan* is not a Santal word ; it is borrowed from a Hindi word meaning ' to know,' *i.e.*, he is the man who knows by revelation. People pronounced by the *Jans* to be witches are taken as witches by the Santals. Whether they really

find them out or the whole thing is a hoax, the Santals believe that they find them out.

When in a family a man suffers from a disease, and none can cure him, the patient or his relatives decide to carry the matter to a *Jan*. They always go in a crowd to the *Jan*. They are, as a matter of course, a couple of men representing the patient, the husband and male relatives of some woman clearly suspected and a few villagers as witnesses. They go together and never lose sight of one another to prevent any one from secretly informing the *Jan* about their business. When they reach the *Jan's* village, they go to the village headman and ask him to introduce them to the *Jan guru*, a request which is always complied with. The headman then asks them to bring the following things, necessary for divination :—

(1) One betel nut, (2) one *sal*-leaf cup, (3) some *adwa* rice, (4) mustard oil, (5) vermilion, (6) resin of the *sal* tree, (7) and some leaves of the *bael* tree (*Aegle Marmelos*).

On the appointed time they come to the *Jan* who will transact his business with them either in his own house, or in the *Jahersthan*, or somewhere outside the village.

The *Jan* puts down some *adwa* rice in a number of places in the name of different *bongas*, puts alongside all these heaps of *bael* leaves and finally, having mixed the oil and vermilion, puts that oil-mixed vermilion in front of the rice. He then throws resin on burning charcoal, blows *shākuā*, sounds the *bonga* bell and worships his *bongas* (they have adopted these things from the Hindus). Then the *Jan* begins to utter incessantly incoherent words. He then tells the name of the place wherefrom they have come, then, the name of the village, the description of the village, the name of the headman of the village, the name of the person who is sick and that of his relatives. At this they are convinced of the proficiency of the *Jan* and tell him 'Now let us hear the oracle.' The *Jan* then takes his fee which is a rupee and tells them the name of a *bonga* or a witch who is at the bottom of their troubles.

Then they return to their village. If the *Jan* says that a *bonga* is giving the trouble then the patient will promise sacrifices. If the *Jan* declares any woman to be a witch, this woman is harassed in every possible way, fined and driven out of the village, and at times killed.

At present the *Jans* are, according to Santal belief, not like the old righteous ones. The *Jans* of ancient time got their knowledge through dreams at night or through visions in the daytime, not possessed by a divination spirit like *Jans* of the present day. Now-a-days the *Jans* keep informers who find out and tell them all particulars. *Jans* of to-day are very careful in fixing the blame. They generally fix the blame on some *bonga* or other in preference to a witch.

Classification of the Supreme, Superior and Supernatural Beings.

It is very difficult to attempt a classification of the orders of the supernatural beings which constitute the religious belief of a community. The classification would often imply the existence of a notion of hierarchy of the supernatural beings, one being far superior to the rest. It is curious to observe that this supreme being is never worshipped in the faith that he can never work out any evil. As for the rest the rank may be determined in the order in which worship is offered to them. But here again the difficulty would lie in the fact that a particular occasion would demand predominance being given to particular spirits. Thus the classification would be more or less a division in parallel lines, for it would be hard to decide the superiority or inferiority of the ancestral spirits on the one hand and the departmental deities of nature on the other. However the following eight classes would differentiate the types of these supernatural beings in Santal belief.

1. The highest divinity recognised by the Santal is *Kando*, the Supreme Being, the Creator. He is the only one who can

give and restore life and who has created the trees, plants, animals, etc.

2. The spirits of dead ancestors are placed by the Santals in a separate class by themselves.

3. The next is composed of household spirits known as *Orak bongas* and tutelary spirits known as *Abge bongas*. The names of the *Orak bonga* are the following :—

1. Baspahar. 2. Deswali. 3. Sas. 4. Goraya.
5. Barpahar. 6. Sarchawdi. 7. Thuntatursa.

The names of the *Abge bonga* are the following :—

1. Darasore. or Dharasanda. 2. Ketkomkudra. 3. Champa denagarh.
4. Garsinka. 5. Lilachandi. 6. Dhanghara.
7. Kudracandi. 8. Barhara. 9. Duarseri.
10. Kudraj. 11. Gasain Era. 12. Achali.
13. Deswali. 14. Pahardana.

It may be noted here that the Santal would not divulge the name of his *Orak bonga* and *Abge bonga* to any one but his eldest son and I was fortunate to get the names from the Christian converts.

4. The fourth class is the hunting spirit known as *Rongo ruji*, a *bonga* to whom worship is made on the night before the men start for the annual tribal hunt with utterly obscene songs and practices.

5. The fifth class of spirits are the village deities, which are the following :—

1. Jaher Erā (female). 2. Gosain Erā (female).
3. Turuko Muruko (male). 4. Marang Buru (male).
5. Parganat (male).

The Santals worship the above deities periodically in the sacred grove.

6. There are spirits of the village boundary known as *Sima bongas*, and of the outskirts of the village known as *Bahre bongas*.

7. Next come tramp or stray spirits who are spirits of persons and children dying an unnatural death.

8. The spirit of the father-in-law's household, as is believed, sometimes follow the bride to her new house which is known as *Naihar bonga*. As soon as a Santal is convinced that the *Naihar bonga* has come along he will either make yearly sacrifices to him, or, as there is some risk connected with it as one does not know the requirements of the foreign *bonga*, he will make arrangements to send him back at once, for by himself he will not return. If either is not done the consequences are disease and death in the house.

Another spirit that must be exorcised is *Kisar bonga*. The *Kisar bonga* is of a rather uncertain character. A man who has got such a *bonga* into his house will be wealthy through him as he steals from others and carries all to the house of his master, but if he is offended there is no end to the mischief he will make. If on his account disease is brought into a family, the whole of it will be exterminated if the *Kisar bonga* is not effectually sent away from the house.

9. The last to be grouped are the spirits or rather mysterious powers residing in or connected with certain objects such as battle-axe (*Kapi Karan bonga* and *Bhalua Bijai bonga*. *Bhalua* is most likely a shortened form of *Bhalua Kapi*, the name of a common form of their battle-axe), and some weird natural objects such as an abnormally gnarled bamboo-shoot, tree-roots, some weird-looking fantastic-shaped hills or a roaring cataract, a waterfall or a tank-side. These spirits are not objects of worship nor do they receive sacrifices but are mischievous spirits who have to be scared away or exorcised by the *ojha* (spirit-doctor).

Santal Religious Ceremonies.

The Santals have no temple nor any shed for worship but they have a *Sthan* (place) known as *Jahirsthan* where they worship the village deities. The *Jahirsthan* is a place where religious ceremonies of the village are performed by the Santals. It is situated at the end of the village and it must be within the boundary of the village. It should consist of trees belonging to the primeval forest. A cluster of *sal* trees, about twenty to twenty-five in number, is always required. Among these trees three are essential and they must stand in a row. At the base of each of these three trees a small stone is placed representing the deities *Jahererā*, *Turukomonrako*, *Marang-Buru*. The fourth is an Ashan tree which grows anywhere near those three *sal* trees, and a stone is put on its base representing the deity *Pargana Bonga*. The fifth and the last is a Mowah tree; on its foot a stone representing the deity *Gosain Erā* is kept. This is the most important one and is known as *Lady of the Grove*.

In the Santal villages there is a succession of festivals throughout the year, nearly all connected with agricultural operations. The chief of these is the *Sohrāl* or *Bānda parab* or the harvest festival, celebrated in the Bengali month Pous (*i.e.*, at the beginning of the month of January) after the rice crop of the year has been harvested. This festival generally lasts for five days. Previously there was no fixed date, villages of one locality performing this festival one day, others performing on some other day. But now-a-days the Deputy Commissioner of the Santal Parganas fixes the date for this festival, and this date is proclaimed by a man with a *sal* branch in his hand in every *hat*. Before this *parab*, Santal women buy large earthen vessels and replace old ones which they bought in the previous year. When the day has been fixed all houses prepare "*handia*" (rice beer) and people invite their relatives. The night before the festival commences, the *naeka* is

religiously abstinent—for before any sacrifice the sacrificer must not have relations with a woman and will have to sleep on the ground on a mat. At daybreak the *goddet* goes round and collects sacrificial fowls from every house. In the middle of the forenoon the *naeka* goes somewhere near a tank together with some of the village people, the *goddet* taking the fowls with him. The *naeka* bathes and then sacrifices the fowls to the different *bongas* after which the villagers cook the fowls with rice and eat them, and also drink rice beer. After this the villagers go to *Kulimucha* (*i.e.*, the meadow on the outskirts of the village), and there they draw rectangular compartments side by side, and in each compartment they put some *adwa* rice and in one compartment they put an egg of hen. They then call the cowboys with the cattle and make the latter tread out the above figures. The cow which treads on and breaks the egg or simply smells at it, is caught. They wash her feet, anoint the horns with oils and also smear vermilion on them. The idea is that the owner of the cow will have good luck. The cow is then lifted up and carried on shoulder and put down before the *manjhi* (headman) whom he salutes and then all elderly men of the village. This the Santals call *Gote puja*.

On the second day in each house of the village within the cowshed the eldest member of the house performs a *puja*. In the centre of the cowshed he draws a circle and within it puts *adwa* rice and paints vermilion and kills white and red fowls and sacrifices pig to *Marang Buru*, the household gods and their ancestors. All the men of the village go with their plough-yokes, battle-axes and knives to bathe. On that day no outsiders are allowed to enter into the house. The Santals call this *Gora bonga puja*.

The third day they set wooden poles in the village street, a bundle of straw being tied on the top of the poles, put some flowers on the poles and also tie five pieces of bread made of powdered rice. Then a bull, after washing and smearing oil on its horns and painting vermilion on them, is tied to the pole.

Then the bachelors and little boys of the village begin to drum, dance and scream so furiously that the animal becomes excited and begins to jump and to the horns of all the cows and buffaloes of the villages a piece of straw is tied and vermilion with mustard oil painted. Friends come and go visiting one another, all (both male and female) more or less drunk and wild with excitement. After all is over, the young people drink and eat in the house of the *jag-manjhi*.

The other two days are for nothing but to enjoy life—merry-making going on in full swing with full sex license. For the five days and nights during which the festival lasts the Santals indulge in a veritable saturnalia giving themselves up to dancing, eating, drinking, singing and sexual license. Although this license does not allow adultery, nor does it sanction intercourse between persons of the same sept, yet if the latter offence is committed it is punished less severely than at other times.

Sakrat.

After the *Badna* festival, on the last day of the month of Pous (December-January) this *Sakrat* takes place. This is in imitation of the Hindu *Pous-Sankranti* festival. On the previous day the Santals, (only males), go out for catching fish. On the day of *Sakrat* they eat curd and parched rice (*chura*), and go out hunting, while the women parch rice and make cakes which the men offer to the ancestors. In the afternoon the *jag-manjhi* collects the men to shoot at a target with bows and arrows after which they dance a war dance and have various kinds of amusements. The day ends with drinking and dancing. On the third day they go out to the *mela* or *hat* afterwards eating boiled rice and *dal* together.

Baha Parab.

Next in importance is the *Baha parab* which is held in the Bengali month *Phālgun* (February-March). This festival takes

place when the *sal* trees (*shorea robusta*) begin to flower. *Baha* is a Santali word which means flower. The purpose of holding this festival is that the new year is well commenced. Drinking, dancing and singing go on in this festival also. The festival takes place in the *Jahersthan* and the *Naike* and *Kudum Naike* worship in the *Jahersthan*. On the first day of the festival the young people of the village build two sheds in *Jahersthan*, one for *Jaher-erā*, *Turuko Moreko* and *Marang Buru* and the other for *Gosain erā*. The *sthans* are cleansed by plastering with cowdung. Then they go to bathe and oil several articles (winnowing-fan, basket, bow and arrows, battle-axe, broom, a wristlet, a necklace and bell and horn of a buffalo which they call *sākua*) which are to be used next day, when three persons become possessed by the three first *bongas* mentioned above. The whole night is spent in drumming at the house of the *naeka*, where all assemble with *bongas* (the persons who will be possessed with *bongas* are called *bongas*). *Jaher-erā* is a female deity and a man who is possessed with this *bonga* takes the ornaments, the basket and the broom ; *Moreka* takes the bow and arrow and *Marang Buru* carries the battle-axe. With these articles they start running for the *Jahersthan* followed by the boys who carry drums, cymbals, bugle and bull-roarer. On arriving at the *Jahersthan Jaher-erā* sweeps the place; the *naeka* asks the *bongas* (*i.e.*, those who are possessed with the deities) for the things they have brought and places them on a mat. He then asks them questions about the happenings of the coming year. The *naeka* then washes the *bongas* and throws the surplus water over them, whereupon the *bongas* jump up howling. Then they return home.

Next day they again go to the *Jahersthan*. When they see a fine *sal* tree in bloom, *Moreko* shoots an arrow into it, while *Marang Buru* climbs it and cuts down the flowering branches, *Jaher-erā* receiving the flowers in a basket. On the road *Marang Buru* gathers *mowah* blossoms. In the *Jahersthan* the *bongas* are again placed on a mat under the shed, and the

naeka, sitting in front of them, sacrifices the fowls, and places a bunch of flowers with a *mowah* flower before each *bonga*. The *bongas* suck the blood of the fowls, whereupon the *naeka* washes their feet, *Jahar-eri* doing the same to the *naeka*. The *naeka*, together with his wife who is now brought to the *Jahersthan* for the purpose, eats one of the fowls cooked with rice; some of the villagers eat the rest in the *Jahersthan*. After this all leave, except the *naeka* who remains alone in the *Jahersthan*. The villagers then proceed to sacrifice fowls and pigs in their own houses, and to eat and drink. In the afternoon they go to the *Jahersthan* to bring the *naeka* back and the rest of the day is spent in general merrymaking. The women also enjoy to their heart's content.

Erok-puja.

This is the sowing festival, celebrated in the month of Asādh (June-July) in the *Jahersthan*. *Naike* and his assistant *Kudum Naike* perform the function. Five fowls are sacrificed in the *Jahersthan*. There they cook these fowls and eat. The heads of the fowls are taken by the *Naike* and *Kudum Naike*.

Janthar Puja.

This *puja* is held in the month of Agrahayan (November-December) in the *Jahersthan* with a view to celebrate the first fruits of the winter rice crops. At this time only one fowl is sacrificed in the *parganasthan* in the *Jahersthan* by the *Kudum Naike*, the flesh of which is taken by the men only.

Hariar Sim.

This festival is observed after the rice has been planted. This is held in the month of Srāban (July-August). Fowls are sacrificed to all the tribal and village deities and prayers are offered for a bounteous harvest.

Mak' Mõrẽ.

This festival are observed by the Santals generally at intervals of five years or so in the *Jahersthan* as a result of vows made at times of distress or epidemics. Fowls are sacrificed and a white goat is sacrificed in the name of the village community to *Mokreko*, one of the five deities of Santals which they worship in the *Jahersthan*.

Jom Sim.

This festival is observed in honour of the sun. It is not observed at regular intervals but each family strives to observe it once in a lifetime. But generally when a man suffers with some disease he makes this vow to the sun (*Sin' Cando*) : "Please cure me, I shall propitiate you after my recovery." After five years he fulfils his vow with due respect and sacrifices two goats which he rears for these five years. According to tradition *Jom Sim* was originally a sacrifice only to the sun, but now the Santals have got separate *Jom Sim Bongas*; so now *Jom Sim* the sun (*Sin Bonga*) receives the sacrifice of a goat and the special *Jom Sim Bonga* that of another. That is why the Santals rear two goats for five years sometimes ; it can be seen one goat and one ram, first one for *Sim Bonga*, the second for special *Jom Sim Bonga*. The *Jom Sim* is performed with many quaint ceremonies which differ somewhat for the different septs. It is probably the oldest sacrifice the Santals have because it has more aboriginal features in it than any other sacrifice of theirs.

Magh-Sim.

Magh-Sim is held in the month of *Magh* (January-February) when the jungle grass is mown ; fowls are sacrificed to all *bongas* by the *Naike* and *Kudum Naike*. This festival marks the end of the Santal year. All the village officials go through the form of resigning their offices and the cultivators give notice of giving up their lands. After a week the headman of

the village says before all the villagers that he has changed his mind and will work in that post, if they accept it, and this is followed with free drinks of *handia* (rice beer) and is carried with acclamation. One by one all other officials do the same and all other things become the same as before.

We now propose to describe here festivals which are believed to have been borrowed by the Santals from others. These are as follows.

Jātrā Parab.

The Santals have probably borrowed this from the Bhuiyas. The Santals perform it here and there outside the village in the month of January or February. Pieces of stone are imbedded in raised mounds of earth and are first painted with vermilion. The *Naike* then mixes some *adwa* rice, milk and betel-nut together and offers this compound to the *bonga*. Then a pigeon and a goat are sacrificed and their blood poured out as an oblation. During the performance oracles are chanted by three or five persons in number, who sit close in a row on some adjacent spot, wag their heads to and fro all the time and work themselves into a prophetic frenzy. Any Santal, who consults them in a reverent manner, will at once get an answer to his questions whether as to his bodily ailments, the death of his cattle or the suspected presence of a witch in his village. For this at least four annas are thrown down at the feet of those five persons.

The Chātā Parab.

This is a Hindu festival which takes place in the rainy season in the month of Bhādra and is observed by one sept, the Hāsdah and by their *Kamars* (blacksmiths). The preliminary function of this festival resembles those of all the others but at the end of the offering a ceremony takes place. A wooden pole, about twelve cubits long, is erected and made to turn a half circle perpendicularly and horizontally. The pole is fastened on a loose

but strong iron pivot which rests in holes made in two upright pieces of wood about six feet in height from the ground. On the top of this revolving pole is tied a small ornamented umbrella and this is caused to jerk first one way and then the other. The erection of this pole is followed with shouts and other noisy demonstrations of delight, the people gather handfuls of dust and dirt and forthwith begin to pelt the umbrella. This novel mode of veneration is at the same time accompanied with dances both by males and females. Refreshments and *handia* (rice beer) are dealt out from sheds erected for the purpose and the whole assembled population regale themselves in the open air with it. The sacrifices in this festival are always eaten at home and not on the spot.

Pātā Parab.

This festival is held in the month of Baisākh in honour of *Pātā Bonga*. It is really a Hindu festival in honour of Mahadeo. It is a corrupt form of the Hindu *Charak Puja*. Formerly the Santals used to be suspended from a high revolving pole by hooks inserted in their back and swung round and round. The swinging apparatus still exists but if anybody swings he is suspended by ropes, not by hooks. In this festival the same sacrifices are offered as at *Jātrā Parab*.

Besides these the Santals join in many of the Hindu festivals. In the Durga Puja ceremony the Santals come to see the ceremony and rejoice. Within their village they, both males and females, sing and dance together for these five days. The Santal performs the Kali Puja. Evidence of this can be ascertained from news published in one of the daily newspapers in the year 1933 on February 16th.

"The Santal Guru Sannyasi Baba has sent the following letter to the District Magistrate, Malda :—

About a hundred Santals from Malda bring it to my notice that their annual Kali puja which was so long performed by

their Sardar Jitu under my orders is going to be stopped. Unhappily, Jitu under a sad mistake died and the Santal Kali puja should not, on that account, be stopped. On the other hand, to allay this strained feeling amongst the Santals I propose to hold the Santal Kali puja at Malda myself. I assure you there will be no disturbance and not only that it will bring back the old good feelings so far as practicable under the circumstance.

As the puja will be held in the month of Falgun I shall be highly obliged to receive an early reply to this letter at your earliest convenience. The annual Santal Kali puja at District Dinajpur inspite of Gangarampur Santal shooting passed off smoothly and the authorities allowed it and were satisfied."[1]

[1] *The Amrita Bazar Patrika*, February 16, 1933.

CHAPTER II

The Santal Social Organization.

Family.

The family amongst the Santals should be of great interest considering that the Santals have been described as polyandrous, for besides the privileges of the younger brother over an elder brother's wife or the latitude allowed to the husband with the wife's younger sisters, there ought to have been traces of at least what has been called group-marriage. As the Santals could be taken as the representatives of a state of culture preceding the Dravidians in India and so be taken as a type of primitive patriliny, theoretically it should have shown the stages of family life which Morgan has described to be pre-Aryan types. Linguistically the Santals belong to what has been called the Austric group and thus would be the westernmost peripheral representatives of what is the Hawaiian type of family in the Pacific. In social structure also as well as in a sort of totemic organization the Santals recall several features of the Australian aboriginals. So an inquiry into the Santal family organization compared with the Hawaiian types or Australian systems or the polyandrous Nair or Tibetan types is necessary.

Types of family.

Amongst the Santal generally two types of family can be seen :

(1) The individual family consisting of father, mother, sons and daughters.

(2) The second consisting of grandfather, grandmother, sons, their wives, daughters (unmarried) and grandchildren, which is equivalent to the Hindu " Joint family ;" the Maori

calls it "Whanau" (meaning extended family or family group) which corresponds to the German "*Gross familie.*"

The family is broken up by marriage when the daughters by the law of exogamy go to another clan. Up to the time of their marriage the daughters are the property of their fathers or the nearest male relatives (if the father is dead), who take charge of her ; when married they come under control of the family of their husbands (with these as their immediate lords and masters) and this they continue to be so long as there is any one who has a right in them. If such a state ceases, they have no longer any *locus standi* ; they revert to their original relatives, if they are alive or become a sort of guardianless minors, if none such exist utterly destitute except for what people may give them or what they may be able to earn through their work. It can be seen that the sons sometimes establish their own home, when they have got their own family. But ordinarily the sons with their wives live with their father and mother.

Ghardi-jawae.

(3) There is a third type, in which the son-in-law is taken as a son in the father-in-law's family. If in a Santal family there is no son but only a daughter, they marry their daughter off and give the son-in-law the position of a son, provided he lives with his father-in-law. If in a family there are grown-up daughters and minor sons, the son-in-law works for his farther-in-law without wages for five years. He then gets two buffaloes, some rice and some agricultural implements, and set up a house for himself and his wife. This sort of son-in-law is called *Ghardi-jawae.*

Family not polyandrous.

In the individual family the father is the *pater familias* whereas in the other type the grandfather or any senior male member is head in every respect; other members, however senior they may be in age, must remain under his authority. In the Santal family all the brothers marry different wives (monogamous) which can be verified from the genealogical trees of the different Santal

families. It is not like the normal Toda family which consists of a number of brothers—brothers with one wife—and each house belongs to a family of this kind and is handed on to the children of the brothers (Rivers' *Toda*, p. 559).

There are no different terms of kinship for the father, father's brother, as also for mother and father's brother's wife which would not have happened, if there had been polyandry—

(Toda)	Father ...	...	*In(aia)*
,,	Father's brother	...	,,
,,	Mother ...	...	*Av(ava)*
,,	Father's Brother's wife...		,,

A consideration of terms of kinship of the Santals side by side with that of the Todas shows that the terminology of that of the Santals is cast in the same way as amongst the Todas. The terms for father and the father's brother are the same, the only difference being marked by the addition of descriptive words like *Gongo* (elder) or *Hopen* (younger) ; so also the terms for the father's brother's wife and of the mother is the same, only modified by the addition of descriptive terms, younger and elder. This might argue in favour of the existence of polyandry amongst the Santals. But the constitution of the family is entirely different. Amongst the Santals as distinguished from the Todas each brother has a separately married wife who is always recognised as the partner of that brother only and does not belong to all the brothers as amongst the Todas. When the child is born there is no question of any difficulty of identity of the biological father who is bound by individual marriage ties to its mother. This is quite different amongst the Todas, where a sociological fatherhood has to be determined by the bow and arrow ceremony of generally the eldest brother in the family when a woman is with child. This sociologically recognised father may be quite different and is often so from the real biological father. Whereas amongst the Santals the sociological and biological father is always the same except in cases of adultery.

Amongst the non-fraternally polyandrous Nairs again there was a custom of several husbands visiting a common wife in turn and leaving shoes, etc., outside for prohibiting the entry of other husbands. There is no trace of any such custom nor any matriarchy amongst the Santals which would have been necessary for such a system of non-fraternal polyandry. True there is the custom of the junior levirate by which the husband's younger brother has marital right over the elder brother's widow. But this marriage can only take place when the elder brother is dead and there is no question of the younger brother marrying the elder brother's wife while he is alive. Though there is a jocose relationship between them, the elder brother's wife is respected as mother. So also the elder brother avoids even touching the shadow of the younger brother's wife, not to speak of her being regarded as the property of the elder brother. There is also the custom of sororate by which a wife's younger sister could be married by the husband. But the wife's sister is generally and almost universally married to another. So it is possible that the identity of the terms of kinship for the father and father's brothers may be explained by the levirate. In such a case the father's brother's wife would be a second mother and so the terms of kinship for the mother and father's brother's wife, would be same. Besides the function of the father's elder brother's wife in a joint family system is more or less of a supervising mother, so this also might explain the identity of the kinship terms.

(Santal) Father	...	Apum, now also bābā.
,, Father's brother	...	(Gongo) Apum (elder), (Hopen) Apum (younger).
,, Mother	...	Ayo (Gongo).
,, Father's brother's wife.		(Gongo) Apo (elder), (Hopen) Ayo (younger).

But the Santal family though apparently the same in structure of kinship terminology is quite different from the polyandrous

Toda family. Comparing the families of these tribes it can be seen clearly that polyandry is not present amongst the Santals. Mr. Craven and the Rev. L. O. Skrefsrud have stated in J.A.S.B., Part 3, 1903, pp. 88-90, that fraternal polyandry is a recognised custom among the Santals and this has been taken up as an official fact in the District Gazetteer, Santal Perganas. But when we compared a Santal family minutely with the polyandrous family of the Todas as above we found the opinion of these two writers not supportable by any evidence whatsoever.

Husband and wife.

The definite nature of an individual non-polyandrous family amongst the Santals is brought about by the relation between the husband and wife. When they once settle down to life it is generally for good ; the conjugal love is similar to what we find in civilized society. The husband in important matters consults his wife. At the time of the marriage of their sons and daughters the consent of both the father and the mother is necessary. There is often a genuine mutual respect between husband and wife. By the legal basis of the marriage the Santal recognises the ownership of the husband individually, as recognised by the mutual besmearing with *Sindur* or red vermilion, but only in a minor degree, that of the family of the husband, over a woman. The Santal wife inspite of her theoretically subordinate position, in practical life has a fair amount of independence and often a position which may be said to be nearly co-ordinate with that of her husband, within her own sphere. The Santal husband and wife carry out the duties towards one another as far as possible in a primitive society. The husband gives clothing to wear, lodging, and board and other necessary things which a wife in a primitive life requires, while the wife feeds her husband by cooking food, for which she collects fuel from the neighbouring forest, and brings water from a streamlet flowing near by. Every morning the wife getting up from the bed cleans the house with mud and cowdung. Over and above that she goes to the agricultural field to help her husband. In the daily social life of the people

the Santal woman has a very independent and strong position both at home and in the village.

Position of women.

Some writers have remarked that the Santal women are looked upon as mere chattel, with which I disagree. Rev. P. O. Bödding is of the same opinion with me (see *Some Remarks on the Position of Women among the Santals*). Such writers have gone too far. Making a tour of almost the whole of the Santal Parganas I got the idea that the Santal women have an important status in their society. Though they are shut off from certain religious and administrative functions their economic status is very high. It is they who generally go to market, make the bargaining—all the produce is in their hand—and they make over the proceeds for the sustenance of the family to the male members. They are the repositories of the moral and religious tradition of the society. All the infringements of social order are brought to the notice of the male members through them.

Parents and children.

The relation between the parents and children among the Santals is also of a sweet affectionate type. How strong the affection of the Santal parents is over their children can be seen from the following facts. The mother or the grandmother of the children always carry the children on their lap even when they go to the *Mela* or to the field. When a child is attacked with any disease the parents become restless, call in the Raranic (Herbal doctor) or the Ojha (Shaman) for curing him.

Illustrations.

In the course of my tour in the Santal Parganas, in Godda Damin in the village Sundarpahari, a man one day requested me to see his son who was attacked with some disease. I went there and saw that the mother of the child held him on her lap. The child at that time was pale and anæmic and the very sight showed that he was in a dying state. In the evening of that very day I heard the child was dead. I at once went there and saw a very pitiable sight. The mother held the dead body fast to her

lap and would not part with it, cried loudly and gave vent to her feelings in the following lamentation song :—

Jare jare dullarya tingdo, ardo okare tahenkan tinyia
Indig men keda lengegi mennai tingia
Haire haire dhon tingdo akarbo
Tine dine jom leda
Jara jare dullarya tingdo okakoreye ssuroh baraikan tingia.
Indigo menkidaing jahan beret ketingya.

(*English Translation.*)

Oh me! oh me! my beloved one
Where art thou now, my darling.
I said to myself all is well with me
Alas, alas, my treasure, how short a time
thou wast with us.
Oh, my beloved, oh, my beloved, where hast
thou found a place ?
I said to myself he will get well again
Ah me! ah me!

At the time of parting after marriage the mother of the girl sings the following song which shows how strong is the affection of the mother towards her daughter :

Dash manse kukhimay rakalom
Baro manse danda may rakalom
Ebekaise racabo madiya,
Duyar rahilagigelare thesh
Dosh manse kukhimmay rakhalom
Baro manse dandamay rakhalom
Ebekaise rackabo madhiya yayokera
Mayakoise cchora Bore.

Utho dhanichala dhalga yuth
Dhanichals dhani ghorgo,
Chala dhani yuthi chali jay,
Tilamaka tandi purbhu ghora
Jhinilaga yayokera
Mayakoise chhora Bore.

Baba hipaoyalaug mutha bhari
Taka oyajo bhayahi paopalang
Sursingya barada, mayahin
Paoyalang kanchura kapra jore

Muth bhari taka paoya yudali
Jai gel surasingya baroda gada
Shota jay gelo, kanchura kaprajo
Chhitali jay gelo, matha bhari
Sindura jo jonome jonome daybhel

(*English Translation.*)

For ten months I kept thee in my womb
For twelve I had thee on my waist
How can I keep thee now? Oh, my daughter,
The house is up to the door full of people.

(*Chorus.*)

For ten months I kept thee in my womb
For twelve I had thee on my waist
How can I keep thee now? Oh, my daughter,
How can thou part with mother's affection.

Oh mother, for pity's sake do not leave me
How can I leave thee?
Get up my daughter and begone.
On the Tilayaka place stands the rich man's horse
saddled and bridled
Oh my darling mother, how can I leave thee?

My father has received a handful of rupees and
a long-horned bull
My mother has got a striped dress
The handful of rupees is spent, the striped dress of
my mother is worn out
The tall-horned bull died in the bathing place
My head is marked repeatedly with the red paint
I am signed for ever and ever.

I now cite an incident in which it can be seen how the father is attached to his sons and daughters—for the son's

sake the father murdered his own mother and mother's sister.

It was alleged that Malta lost a son and a daughter who died of fever some time before the murder. Suspecting that his mother was a witch and was killing his children with her baleful influence, he convened a *panchayat* of the village elders and accused his mother of witchcraft. A quarrel in the family followed, when his mother left his protection and went to her sister's residence in the same village. A few days later Malta went to the residence of his maternal aunt for the treatment of his sick child by her husband Juno, who is a doctor amongst the Santals and stayed there for a few days. On the night of occurrence Malta who had fever himself slept in the same room with his mother, his aunt, his son and the other inmates. But at about midnight Juno the village doctor was roused from his sleep by a certain sounds and noticed that Malta was standing with a pickaxe in hand near the bed where his mother and aunt slept. The two women were lying senseless on the bed with bleeding wounds on their heads.[1]

The relation between the elder brother and the younger brother amongst the Santals is very interesting.

The elder brother, specially the eldest one, is looked upon as the representative of the father and after his death is the head and governor of the family. For this reason there are in fact some Santals who look upon the wife of the eldest brother as equal to their mother and pay her respect accordingly. Again the elder brother cannot call by name the wife of his younger brother. (This was verified whenever I asked for the genealogical table of the Santals. I saw that in every case the elder cannot take the name of his younger brother's wife ; he asked others to tell her name.) The *Bakat bahu* (younger brother's wife) cannot touch the shadow of her husband's elder brother.

[1] *Amrita Bazar Patrika*, 18th May, 1933.

Sept and Sub-sept Organisation.

The internal structure of the Santal tribe is singularly complete and elaborate. There are several exogamous divisions called *Parishes* (septs). Ten names were obtained by me at Dumka, Dumka Damin, Godda, Godda Damin, Jasidhi, and Hazaribagh district. In Deoghar I got eleven *Parishes* :

Sept.	Meaning.	Sept.	Meaning.
1. Hansdha	Wild goose	6. Soren	The constellation Pleiades.
2. Murmu	Nilgai	7. Tudu	*Nil*
3. Kisku	*Nil*	8. Baske	*Nil*
4. Hemrom	Betel palm	9. Besra	Hawk
5. Marandi	Sabai grass	10. Chonrey	Lizard

In Deoghar in addition to the above I got one Pauria the meaning of which is Pigeon.

Edward Garnet Man described in his *Santhal and Santhalia* the following twelve *Parishes* of the Santal :

Sept.	Sept.
1. Hansdha	7. Besera
2. Murmu	8. Kedoar
3. Soren	9. Baske
4. Tudu	10. Marmoring
5. Marli	11. Bisra
6. Kisku	12. Hemron

Marli, Besera, Kedoar, and Marmoring—these four *Parishes* I could not find anywhere in the Santal Parganas.

Dalton in the *Ethnology of Bengal* divided the Santals into the following tribes :—

Sept.	Sept.
1. Saran	7. Tudi
2. Murmu	8. Baski
3. Marli	9. Hemrow
4. Kisku	10. Karwar
5. Besera	11. Chorai
6. Hansda	12. ****

The Karwar, which Mr. Dalton recorded as a tribe, is not a tribe but a sub-sept of the Hansdha sept. He has written the English equivalent of the Santali word *Parish* as tribe, which I think is not proper. In the truest sense of the term it will be a sept.

Sir Herbert Risley has noted the following twelve septs of the Santals :—

Sept.		Sept.	
1.	Hansdak	7.	Baske
2.	Murmu	8.	Besra
3.	Kisku	9.	Pauria
4.	Hemrom	10.	Chore
5.	Saren	11.	Marandi
6.	Tudu	12.	Bedea

Among the twelve septs, I found Besra, Murmu, Kisku, Tudu, Hansda, Soren, Marandi, Hemrom and Baski in large numbers in the Damin area of the Santal Parganas. The septs Chonrey and Besra are regarded by the Santal as inferior amongst the twelve septs ; that is why the people who actually belong to one of the above two septs, give out the names of the other septs when asked suppressing their own. The sept Bedea is not now found in this area.

The aforementioned septs (*Parishes*) are again sub-divided into sub-septs (*Khunts*). The Santal inherits the sub-septs from the father's line. The sub-septs (*Khunts*) are as follows :—

Septs (*Parishes*).	Sub-septs (*Khunts*).	Meaning.
I. Baski	1. Nij	Oneself
	2. Sada	Apply no vermilion at the time of *puja*.
	3. Nalkekhil	
	4. Sure	Cooked along with rice
	5. Kerwar	
	6. Lost	
	7. Mundu	Means a jungle

Septs (*Parishes*).	Sub-septs (*Khunts*).	Meaning.
II. Besra ...	1. Bundra	
	2. Kahu	Crow
	3. Kara guza	There were two blind brothers, from their names this sub-clan begins.
	4. Nij	
	5. Sibla	
	6. Son	A cultivated-fibre yielding plant (*Crotalaria juncea* D. C.).
	7. Sung	
	8. Sādā	
	9. Naike khil	
	10. Loat	Creeper
	11. Kahu	
III. Hasdak ...	1. Barwar	
	2. Kedwar	
	3. Chilbhindha	Eagle-slayer
	4. Jihu	Babbler, a kind of bird
	5. Nij	
	6. Sada	
	7. Rok-Lutur	Ear-pierced
	8. Kara-guja	
	9. Naike khil	
	10. Kahu	
	11. Sak	
IV. Hembrom ...	1. Gua	Areca-nut
	2. Tahur	
	3. Kumar	
	4. Laher	
	5. Dantela	So called from their breeding pigs with very large tusks for sacrificial purpose.
	6. Nij	
	7. Uh	
	8. Roh-Lutur	
	9. Naike khil	
	10. Sada	
	11. Manjhikhil	
V. Kisku ...	1. Abar	
	2. Ah	
	3. Kachua	Tortoise
	4. Lat	Baked meat in a leaf-plate
	5. Nag	Cobra
	6. Nij	
	7. Sada	
	8. Roh-Lutur	
	9. Somal	Deer
	10. Naike khil	
	11. Son	
	12. Buru-beret	

Septs (*Parishes*).	Sub-septs (*Khunts*).	Meaning.
VI. Marndi ...	1. Buru-beret	Of the hills
	2. Kekra	Crab
	3. Manjhikhil	Worship on the *Manjhisthan*
	4. Naike khil	
	5. Nij	
	6. Roeth	Panjaun tree
	7. Sada	
	8. Rok-Lutur	
	9. Keawar	
	10. Sidup	
	11. Khanda	Weapon or a Sari
	12. Khanda jogao	
	13. Rupa	Silver
VII. Murmu ...	1. Bitol	Outcasted
	2. Boor	Fish
	3. Coopier	Small in the hind quarters, as a bullock.
	4. Handi	Earthen pot
	5. Nij	
	6. Sada	
	7. Samak Sari	
	8. Sikiya	Chain
	9. Tikka	To put a mark on the forehead
	10. Naike khil	
	11. Manjhikhil	
	12. Laher	To cut
VIII. Soren ...	1. Sada	
	2. Nij	
	3. Jugi	Give to the *puja* the things which they bring by begging.
	4. Barchir	Spearman
	5. Manjhikhil	
	6. Naike khil	
	7. Sidup	Bundle of straw
	8. Sak	Conch-shell
	9. Khanda	Those who worship buffalo
	10. Tika	
	11. Mal Soren	
	12. Rok lutur	
IX. Tudu ...	1. Agaria	Charcoal burner
	2. Chigi	
	3. Dantela	
	4. Lat	
	5. Manjhikhil	
	6. Naike khil	
	7. Nij	
	8. Sada	
	9. Roh-Lutur	
	10. Sung	

Septs (*Parishes*).	Sub-septs (*Khunts*)-	Meaning.
X. Paurid (no sub-divisions found) ...	1. Mundu 2. Kahu 3. Sidup 4. Naike khil 5. Nij 6. Sada 7. Manjhikhil	
XI. Chonre=Core (no sub-divisions found) ...	1. Naike khil 2. Kahu 3. Nij 4. Lat 5. Manjhikhil 6. Sada 7. Gua	
XII. Bedia (extinct)		

Traditions of the Septs.

In *Horkoren Mare Hapramko Reak Katha* of Rev. P. O. Bödding, which is written in Santali language, he has recorded the tradition of the Santal people. In it there is a story that the septs Hansdak, Murmu, Kisku, Hemrom, Marandi, Saren, Tudu, are believed to be descended from the seven sons of the first ancestors, Pilchu Haram and Pilchu Burhi. The five others have been added afterwards as an inferior moiety. As regards the origin of the five additional septs the following stories are told :—The sept Baske at first belonged to the above seven, but by reason of their offering their breakfast to the gods while the Santals were still in Champa, they were formed into a separate sept under the name of Baske. The Besra were separated on account of the immoral behaviour of their eponym, who was called Besra the licentious one. The sept Pauria is called after the pigeon and the sept Chonra after the lizard ; and the story is that on the occasion of a famous tribal hunting party the members of these two septs failed

to kill anything but pigeons and lizards, so they were called after the names of these animals. The sept Bedea was left behind and lost when the Santals went out of Champa and is now extinct. They had no father, so the story goes ; the mother of their first ancestor could not say who his father was and for this reason they were deemed to be of inferior rank to the other septs. This sept is believed to have arisen during the time of Mando Singh in Champa when the Santals had begun to come in contact with the Hindus. Some Santals say that the father was a Rajput and the mother a girl of the Kisku sept. Santals are very particular about the honour of their women so far at least as outsiders are concerned and it is quite in keeping with their ideas that a sept formed by liaison with a Diku (non-Santal) should have been looked down upon and eventually banished from the community.

The names of the sub-septs have been collected from my Santal informant Ram Marandi (Parganait of Sundar Pahari of Godda sub-division). It agrees substantially in detail when I checked up the data from Campbell's Dictionary published in 1899. The fidelity of my informant is to be judged from his not being able to mention any sub-sept of Chorey and Pauria which do not occur in that area. The general impression which I gathered from other Santal dignitaries is that the sub-septs did not generally exist. The sub-septs appear at least in this case not to be exagamons units at all ; they rather mark family distinction and traditions, for instance those who would not paint vermilion would be called *Sādā* (white) or those who would be descended from a headman or a priest would be called *Majhikhil* or *Naikekhil*. The sub-septs thus marked an important tendency of the Santal exogamous group either to be divided into sub-groups or sometimes add a sub-group to itself. This alone explains the disparity in number of the sub-septs in the various septs. There is of course a tendency of the sub-septs to approximate to the number twelve according to the pattern of the total number of the septs. But this is by no means the case. Apparently

the one important function of the sub-sept is to distinguish between *Nij* and *Sādā* which occurs in all the septs. This pertains to the use of vermilion and may be due to the important custom of smearing with vermilion on the occasion of marriage and other auspicious ceremonies which once divided the Santals into two groups based on the use and non-use of the vermilion. That this was the uppermost idea in the Santal's mind was forcibly impressed on me while taking their measurements and enquiring of their sub-septs; the majority came out with either *Sādā* (white) or *Nij* (proper). Thus the sub-sept division not being exogamic is not so much a vital part of their social organisation; rather it was a division due to cultural difference. The possibilities are that once either the vermilion was a borrowed culture trait from outside or its use was given up by a section due to some internal reform movement or influence of some superior non-vermilion-using culture. It is more probable that the use of vermilion was more innate to them because the users are called the *Nij* or proper. Vermilion, it may be noted, is used by them only on the occasion of marriage. Among the Bengal Hindus vermilion is not only used in marriage but has to be always worn on the parted hair of the married women, lack of vermilion signifying widowhood. On the other hand in other parts of Hindu India more stress is laid on the use of flowers by the married women. Vermilion is not known in the primitive area of Assam. Thus it is probably a vital part of the culture of Chota Nagpur tribes.

Notes on Sub-septs.

Tha-ok Sub-sept.

Whenever any ceremony (religious) occurs the members of this sub-sept sacrifice a goat or a pig in their houses, and they shut the doors tight and allow no smoke to escape.

Māl Sub-sept.

They may not utter the word Māl when engaged in any religious ceremony or when sitting on a *panchayat* to determine any tribal question.

Jihu Sub-sept.

They may not kill or eat the Jihu or babbler bird, nor may they wear a particular sort of garland known as *Jihu Mālā* from the resemblance which it bears to the babbler's eggs. The Jihu is said to have guided the ancestor of the sept to water when he was dying of thirst in the forest.

Sankh Sub-sept.

They may not wear shell necklace or ornaments and are forbidden to eat, carry, cut or use shell.

Jugi Sub-sept.

They smear their foreheads with vermilion at the harvest festival and go round asking alms of rice. With the rice thus collected they make cakes which they offer to the gods.

Manjhikhil Sub-sept.

The members of this sub-sept are descended from the *Manjhi* (headman of a village) *i.e.*, their ancestor was a *Manjhi*.

Naikekhil Sub-sept.

The members of this sub-sept claim descent from a village priest.

Totemism of the Santals.

The Santals as mentioned above are divided into a number of septs and sub-septs mostly named after some animals, plants, fruits or other material objects. It is now worth enquiring how far the septs and sub-septs have totemic relations with such things. Totemism, in the truest form is not present amongst

the Santals. The Santals of our days do not believe in the actual descent of a clan from its totem, and the few legends of the Santals about the origin of some of their clans do not point to any belief in the descent of men from their totems. All that they indicate is that the totem animal and plant had had some accidental connection with the birth of the ancestor of the clan. As for example the sept Pāuriā is called after the pigeon and Chōre after the lizard ; and the story is that on the occasion of a famous tribal hunting party the members of these two septs failed to kill anything but pigeons and lizards, so they were called by the names of these animals.

As with other totemic people a Santal also abstains from eating, killing, hunting or destroying the animal, plant or other objects that form his clan totem. Eating, killing, hunting, and destroying one's clan totem is regarded by the Santal as equivalent to killing a human member of his own clan. The idea of brotherly feeling between the members of the same clan is present among them. The marriage between persons of the same clan is considered incestuous which may be taken as a confirmatory test of the above idea.

Descent, of the Santal, is always reckoned in the male line and a man has the same totem as his father ; the totem of the mother's father's line is not respected. As a female has no clan of her own, she is not a recognised member of her father's or of her husband's clan and has not therefore to observe the taboos relating to their totems. But actually the Santal women do not kill any totem animal or any totem plant, just as their husbands do not kill or destroy any totem animal, plant and other object.

Individual or sex totem is unknown to the Santals. Their totem is hereditary and not acquired. The members of a clan do not wear any distinguishing emblem or peculiar dress nor have they representations of their totem cut or tattooed on their persons or curved or painted on their houses or any personal belongings.

Terms of Relationship.

English.	Santali.
Father's father Mother's father	Goṛom apum
Father's mother Mother's mother	Goṛom ayo
Father	Apum
Mother	Ayo
Father's elder brother	Gongo apum
His wife	Gongo ayo
Father's younger brother	Hopon apum
His wife	Hopon ayo
Father's sister	Hatom
Father's sister's husband	Kumari
Mother's brother	Mama
His wife	Hatom or Mami
Mother's sister — elder	Maraṅ ayo
Mother's sister — younger	Kaki or Hopon ayo
Their husband	Kaka
Wife's father	Honhar baba
Wife's mother	Honhar ayo
Mother's sister's son ,, brother's ,,	Same as for own brother.
Mother's sister's daughter ,, brother's ,,	Same as for own daughter.
Husband	Herel
Wife	Era or Oṛak-hoṛ.
Wife's brother — elder	Bāho'nhar
Wife's brother — younger	Erwelin
Wife's sister — elder	Ajhnarin
Wife's sister — younger	Erwelin

English.	Santali.
Husband's elder brother	Marañic Bahotharic
Husband's sister { elder	Ajhnarin
younger	Erwelin
Wife's sister's husband	Sadgea
Husband's brother's wife { elder ...	Ajhnarin
younger ...	,,
Husband's father	Honhar baba
Husband's mother	Honhar ayo
Elder brother (M. S.)	Dada
Younger brother (M. S.)	Bokom
Elder brother (W. S.)	Ba hon'har
Younger brother (W.S.)	Erwelin
Elder sister (M.S.)	Ajhnarin
Younger sister (M.S.)	Erwelin
Elder sister (W.S.)	Ajhnarin
Younger sister (W.S.)	Erwelin
Father's brother's son	Baktata
,, ,, ,, (younger) ...	Eya
Father's brother's daughter	Doi
,, ,, ,, (younger) ...	Paku
Father's sister's son	Same as above
Father's sister's daughter	Same as above
Daughter's husband	Jawae
Son's wife	Bahu
Son's son	Gorom Koṛa
Son's daughter	Gorom Kuṛi
Daughter's daughter	Same as above
Daughter's son	Same as above

M.S.—Male speaking. W.S.—Woman speaking.

Marriage.

It is strictly forbidden for any Santal to marry within his own sept (*Parish*). He may marry into any other sept or sub-sept to which his mother belonged. Among the Santals there is a custom that a Santal can marry a girl who is three *kursis* (generations) apart.

There are some septs which never intermarry with one another in consequence of some ancient feud between them. A Hāsdak male or a female never marries a Murmu female or a male respectively. Similarly a Tudu male never marries a Besra female and *vice versa*. An old Santal of Tudu sept told me the following tradition explaining why intermarriage is not allowed between the Tudu and Besra septs.

Once a woman of Besra sept fell in love with a Tudu man, but the man did not agree to marry as the Besra sept is lower. Then the relatives of the man and woman made an agreement that if between the fight of their sept-animals, buffalo and cock, the cock would lose its life then there would be marriage but if the buffalo would die then there would be no marriage. Then on the fixed day before the relatives of the both sides this fight took place. The headman of the village holding the pointed horn of the buffalo in one hand and the cock in another asked the permission of the men on both sides, and when they gave an answer in the affirmative, he let them loose and a fight then ensued between the cock and the buffalo. In the fight the cock took out the two eye-balls of the buffalo with its pointed bill, in consequence of which the buffalo lost its life. Thence no marriage was allowed between the two septs. But now no such restriction can be found.

Girls are married as adults mostly to men of their own choice. Sexual intercourse before marriage is tolerated; but if a girl becomes pregnant the young man is bound to marry her. Should he attempt to evade this obligation

he would be severely punished by the *Jogmanjhi* and in addition to this his father would be required to pay a heavy fine.

In Santal marriage there is no restriction of age. The bride may be younger, older or of equal age with the bridegroom. The usual practice is that the parents on both sides will select the bride and bridegroom. Generally it happens that some relatives of the bridegroom, when they go to some village for some business and find a suitable bride, inform the parents of the bridegroom that in such and such a village there is a suitable bride ; if the son is given in marriage with her, it will be a good match. After that a *raibar* (marriage-broker) is appointed by the bridegroom's parents and he negotiates the marriage between them. The usual place of selection of brides for the Santals is the market. I saw personally a selection in a market at Katikund village within Dumka Damin. On the outside of the market a bridegroom with his relatives stood in a row and the bride with her relatives stood in another row face to face about four feet apart ; then one of the females on the bride's side approached the bridegroom and rubbed mustard oil on his face and gave him some fried rice and the woman saluted all those who were there. The same thing was repeated by a woman of the bridegroom's side to the bride and her relatives.

The parents of the bride go to the village of the bridegroom to enquire into his property and pecuniary condition.

Then *Horok'chikna* and *Jawaidhuti* ceremony take place. The father, other relatives and co-villagers of the bride come to the house of the bridegroom and dress him with a new piece of cloth and a turban and give him some coin which varies from annas four to one rupee. They then take their meal, drink *pachawee* (rice beer), sing songs with *madals* and cymbals, after which they come back. The bridegroom's father goes with the relatives, takes the girl and seats her on his thigh, gives her a solid brass necklet and kisses her.

Then comes *Takachal, i.e.*, payment of bride-price. Generally the bride's father demands twelve rupees now-a-days. This

bride-price is divided between the following persons :—

Father of the bride gets Rs. 3.
Mother of the bride gets Rs. 5.
Mother's mother gets Rs. 2.
Father's mother gets Rs. 2.

The brother of the bride will get from the bridegroom a bull; if the bridegroom's father fails to give the bull then he pays Rs. 2 in exchange. The headman of the bride's village gets from the father of the groom one rupee. From that rupee the headman pays annas eight to the *bariatko* (those who follow the bridegroom to the bride's house). Previously there was a custom to give rice and *Pachawee* and not cash.

The next function is to fix the day for marriage. The Santals give their sons and daughters in marriage generally in the month of *Baisakh* and *Phalgun*. It is their custom not to marry their children in the month of birth. Through the *Raibar* the bridegroom's father sends a string with a number of knots on it. The number of knots indicates the number of days. The father of the bride therefore getting the string understands that the bridegroom's father wants to fix his son's marriage as many days afterwards as the string contains knots. Now, if the father of the bride agrees, he sends the same number of knots on another string to the bridegroom's father by the *Raibar*, but if he wants to have his daughter's marriage earlier or later he sends more or less knots on the string as the case may be.

Then comes the *Mandwa* ceremony which may take place on the marriage day or one or two days earlier. For this they build a temporary shed. This is a rectangular shed with a strong central post which is called *Mandwa khunti*. This shed is erected by the young men of the village who are known as *Mandwa kora*. *Pachawee* and boiled rice are given to those young men both at the time of building and at the time of

removing it after marriage. This shed is erected both in the house of the bride and bridegroom. The *Jogmanjhi* brings five *kumaris* (unmarried girls) to rub oil on the following persons within the *Mandwa* shed in the following order: *Naike* and his wife, *Kudam naike* and his wife, the headman and his wife, the *Parāmānik* and his wife, the *Jogmanjhi* and his wife, the parents of the bride and bridegroom, as the case may be. Last of all, in the hands of villagers who may be present there only mustard oil and turmeric is given.

Then on the appointed day the bridegroom with the *bariatko* (friends, relatives and villagers) starts for the bride's house in the afternoon. When they reach the village of the bride, they wait outside the village in a field, and they are cordially welcomed by the bride's father and relatives. Dancing and music were already going on there, tum tums, *madals* and cymbals being beaten more than ever. The bride wearing a new cloth stands a little apart by the side of the bridegroom. The bridegroom's younger brother, an important personage in the scene, stands on his left side and the whole party stands on the road just at the entrance to the village. A large crowd of village females, each bearing a brass basin containing a lump of coarse molasses and a *lota* filled with water stand there. Upon the usual greetings being offered which consist of all bending down respectfully and touching the ankles of the happy group, the elder women step forward and each in turn taking a large pinch from the molasses thrusts it first into the bride's mouth with her fingers and thumb, after which she holds the *lota* of water for the bride to drink from and then pours a little of the water over her feet. The same ceremony is performed on the bridegroom and his brother. The dancing and music are kept up without cessation during this performance and many torches are also lit. After this, three women—the mother, the elder aunt and the younger aunt of the bride—come out of the crowd and take the bridegroom, his brother and the bride away with them into the village followed by other attendant girls and

women who amuse themselves with cutting jokes on the blushing bride. All then proceed to a clean house washed spick and span which the *Joghmanjhi* of the village has made ready. On its threshold stands a young and graceful maiden with a lighted taper in her hand awaiting their approach all alert and she stands there for an hour after the pair come in. She is generally the younger sister of the bride, in absence of whom her cousin does this function. Here the carriers drop their burdens and after salutation the same cleaning and washing of feet is undergone when they are again taken up and deposited at the next house and this goes on through the whole village.

It is well nigh midnight before all these preliminaries are settled. The bridegroom's father takes with him food for the *bariatko* who in the meantime have their fill. Then if there be excess of money all the villagers get a share of it. This payment is given on their leaf-plates. In the feast the outcasts serve salt, which is the most important function in the ceremony. After the feast an old Parganait says "From to-day we have taken them into our society again, all pollution has been washed away. We shall take food in their houses, we shall give them our daughters in marriage and also take their daughters for our sons, etc." Thereupon they dig a small hole in the earth in which they bury a lump of cowdung and put a stone on top, thereby symbolizing that the matter is buried for ever. Thus the man and woman become Santal again. The wedding party then adjourns to the house of the bride. The bride then is put into a basket and her male relations lift her up and the bridegroom is raised upon the shoulder of her eldest brother ; thus he meets her and applies vermilion on her forehead five times with a horizontal stroke. This part is the most important of the whole function of the marriage ceremony. Then paddy and grain are showered over her.

Then the wedding feast begins. The *Jogmanjhi* who is in charge of this makes the food ready which consists of goat's flesh, pork, fowl, boiled rice and large earthen pots filled with

pachawee. All the villagers, both male and female, young and old, eat to their hearts' content.

Next day the bride and bridegroom and a few female relatives of the bride come back to the house of the bridegroom. The female relatives remain there with the bride that night. Next day after a good feast they come back to their village. To all the villagers of the bridegroom's party he gives a feast which ends the marriage ceremony.

Besides this there are other forms of marriage by which the Santal lovers may be united in the bonds of matrimony. These are as follows :

1. *Kudam Bapla.*

If a girl becomes pregnant, the young man by whom she becomes so is bound to marry her. The procedure for this kind of marriage is as follows :

The young man informs the *Jogmanjhi* of his offence and the girl confesses to the wife of the *Jogmanjhi*. Then the *Jogmanjhi* informs the matter to the headman of the village and also to the parents on both sides. The bridegroom pays twelve rupees and a bull for the bride-price. The *Jogmanjhi* then takes this couple to the house of the bridegroom's parents with the headman and some other villagers. There they fix the date of the marriage. Then on a fixed day in the house of bridegroom the latter applies vermilion to the forehead of the bride ; the bridegroom at the time of applying vermilion stands facing west and the bride facing east.

2. *Ghardi-jawae Marriage.*

This kind of marriage is resorted to when a girl is the only child of her parents. When a man has minor sons and grown-up daughters he procures a *ghardi-jawae* to get help in his agricultural work. When a girl is ugly or deformed and there is no prospect of her being asked in marriage in the ordinary way,

this form of marriage takes place. Usually a man seeks a wife for his sons ; here it is the opposite. All expenses of marriage are borne by the father of the girl. At an ordinary marriage the bridegroom's friends are called *bariatko*; here it is the friends of the bride that are called so. In this kind of marriage the bridegroom pays nothing for his bride but lives with his father-in-law and works for him without wages for five years. At the time of marriage the girl's parents give the young man a calf. This becomes his personal property. The girl also gets a calf at the time of marriage. She is further permitted to get "*arpa*," *i.e.*, reap a few sheaves of paddy for herself. If a man wishes his *ghardi-jawae* to become his heir this has to be specially arranged and publicly declared and such is done at the time of marriage. When a man procures a *ghardi-jawae* to get help in his agricultural work, in such cases the girl's father will set aside a bit of land for this *ghardi-jawae* and will help him to get additional land. When the five years of service are over, the *ghardi-jawae* is free to depart.

3. *Itut Marriage.*

This is adopted by forward young men who are not quite sure whether the girl they fancy will accept them, and take this means of compelling her to marry. The man taking some vermilion on his fingers watch his opportunity at the fair or on any similar occasion, marks the girl he is in love with on the forehead and claims her as his wife. Doing this he runs away at full speed to escape from the thrashing he may expect at the hands of her relations if he is caught on the spot. In any case the girl's relatives will go to his village and will obtain from the headman the permission to kill and eat three of the goats of the offender or of his father and a double bride-price must be paid for the girl. The marriage is however legal and if the girl still declines to live with the man, she must be divorced in full form and cannot again be married as a spinster.

4. *Nirbolok Marriage.*

This form may be said to be the female variety of ' Itut.' A girl, who cannot get a man whom she likes in the regular way, takes a pot of rice-beer (*pachawee*), enters his house and insists upon staying there. They do not adopt any physical force to expel her from the house. It is said to be quite fair and usually effective to throw red pepper on the fire as by inhaling the smoke she is compelled to run away, but if she passes this endurance test without leaving the house, she is held to have won her husband and the family is bound to recognize her.

5. *Sanga Marriage.*

Sanga marriage is equivalent to the *Nika* system of the Muhammadans, which is used for the marriage of widows and divorced women. The bride is brought to the bridegroom's house with a small party of her own friends. The binding portion of this form of marriage consists in the bridegroom taking a *Dimbu* flower, painting it with *Sindur* with his left hand and with the same hand sticking it in the bride's coiffure.

6. *Kiring-jawae Marriage.*

This form of marriage is comparatively rare. When a girl becomes enciente by illicit connection with a man of her own sept, some one is induced to become her husband in order to avoid the scandal. For this sacrifice he gets two bullocks, a cow and a quantity of paddy from the family of the man by whom the girl is made pregnant. The headman calls the villagers together and declares the couple to be man and wife in their presence and instructs the girl to live with him and be faithful to the husband that has been provided for her.

Divorce.

Divorce is a common sequel to the Santal marriage. Divorce is allowed at the wish of either husband or wife. If neither

party is at fault, the one who wants a divorce is expected to bear the expenses. In this case the husband cannot claim the bride-price originally paid and also has to pay a fine of Rs. 5 and give the woman a piece of a cloth. If, on the other hand, it is the wife who demands divorce without just cause, her father has to refund the bride-price to her husband. If adultery is proved against her the co-respondent is called a thief and has to pay Rs. 60. If the man is guilty, the bride-price is forfeited. Barrenness is one of the common causes for the divorce. In this case the husband has to pay the penalty. The divorce is effected in the presence of the assembled villagers by the husband tearing asunder three *sal* (*Shorea robusta*) leaves in token of separation and upsetting a brass pot full of water.

Birth and Naming Ceremony.

Immediately a birth is announced there is a gathering of friends and relations for congratulating the parents and on the third, fifth or seventh day there is a purification ceremony which really consists in nothing but shaving off the hair the child may have on its head ; until this is done it is considered unpropitious to engage in any *shikar* or hunting expedition or religious ceremonies. In many villages it is strictly prohibited.

When the purification has been completed the women and children of the village who have assembled at the house receive each a leaf-cup full of rice-water with which the leaves of *Nim* have been mixed. After this they all take a draught of their home-brewed liquor and depart.

Upon the fifth day the child receives its name. Should it happen to be a son and heir he takes the name of his grandfather ; should he be the second son born, he takes that of his maternal grandfather ; and thus the paternal grandfather's brother for the third boy, the maternal grandfather's brother for the fourth boy and so on. The same procedure is followed for girls, the feminine relations being in the same order from the female side.

Chacho Chhatiār.

It is a very important ceremony of the Santals, which enables anybody to take his place in Santal society and participate in its rights, rules and ceremonies. Without this no Santal can be married nor cremated; if anybody died without this ceremony he is buried. There is no age limit for this ceremony, only it must precede marriage. Generally the Santal performs this ceremony on several children at one and the same time.

The father of the children brews *handi* (rice beer) and provides oil and turmeric for the villagers. One morning the father calls the *manjhi haram* and *parāmānik* and gives them *handi* to drink. After drinking *handi* the headman orders the *goddet* to call the villagers together. Five girls (unmarried) of the village anoint first the *naike* and his wife on a mat with oil and turmeric, next the *kudam naike* and his wife, then the *manjhi-haram* and his wife and then all the officials and their wives. Last of all the women of the village are anointed. Then *handi* is served in leaf-cups to all the officials and the villagers, and for each child four small leaf-cups are given to all those present. Then they ask the father, "How many boys and girls have you?" On receiving an answer they ask again, "Where is the land?" The father tells them where the namesakes of the children live, whereupon they call for "namesake *handi*," *i.e.*, beer which the namesakes present have brought with them. The people then sing special songs and dance.

A man, who in a way officiates for the father, now begins to cite mythical historical tales. He starts with the creation of the earth and relates the Santal history of mankind, their wanderings, etc., according to tradition, and how they finally settled and multiplied. Thereupon the man on behalf of the family says, among all other things, "We implore you to let us be with you to brew and drink *handi*, to fetch water on the marriage day, on the *chhatiar* day and on the day of cremation. We

were like crows, we are become white like paddy birds. You villagers be our witness." The festival is concluded by further drinking and singing *chhatiar* and other songs.

Adoption.

Among the Santals to adopt a child is of rare occurrence. Dr. Campbell says they do not practise adoption. Rev. P. O. Bödding is of opinion that adoption is present among the Santals. I have also heard of one or two instances of adoption in the Damin area of the Santhal Parganas.

If a man takes a second wife and this woman has a boy by a former husband, the man may adopt this boy. He proceeds in the following way: He first informs the village headman, then calls the nearest male relatives of the boy whose consent is necessary. If they agree they say so in the presence of the headman and the villagers of the village where the man, who will adopt the boy, lives. Then the male relatives of the boy renounce him and declare him henceforth to belong to the new father; it is also declared that the boy shall have no right of inheritance in the property of his natural father. When all these are done the adopting father fixes a date for the formal adoption of the boy. The villagers of that village on that day behave as at *Janam Chhatiar* (name-giving ceremony of the Santal child). They shave and drink *handi* (rice beer). The usual procedure in a *Janam Chhatiar* is that there the officiating midwife tells the assembled people the name of the new-born child; here she does not tell the name of the boy but the sept or sub-sept of the adopting father; henceforth that becomes the sept of the boy. Thereupon they leave the boy to eat the flesh of animals sacrificed to the tribal deities. Henceforward the boy becomes one of their own.

Bitlaha.

It means to outcast a Santal from society. This outcasting takes place by the order of the assembled members of

the *Panchayat*. It is resorted to when a Santal woman indulges in sexual intercourse with either a *diku* (non-Santal) or with a person of the same sept. If any one commits such an offence the headman of the village in question calls his neighbouring colleagues together and informs them of the matter; if the people hold that the case is not proven, then those who started the rumour are severely punished. If it is proved, the assembly gives an order for outcasting and they proceed to carry it out the day after the annual hunt. The date of this *Bitlaha* is announced by a man in the market by carrying a branch of Sal tree (*Shorea robusta*) containing leaves. The people in the market on seeing him understand the matter and count the leaves of the branch (each leaf of the branch means a day) because as many leaves as it contains so many days afterwards this *bitlaha* is to take place. During this operation the *Parganait* of that bunglow and even the Sub-divisional officer of that district are generally commissioned to superintend so that nothing untoward happens. One such outcasting I saw personally about two years ago at Dumka within the Santal Parganas.

In the early morning of the appointed day the bachelors and other male members of the neighbouring villages with flutes, drums, bows and arrows meet at the end of the village street where the culprit lives. The bachelors compose extempore obscene songs in which he is mentioned by name. Drumming is kept up so terribly that the sound can be heard for miles around. At a sign from the leader the crowd with wild yells and lifted hands holding bows rushes towards the village with him, drumming and blowing their flutes loudly and singing obscene songs. The women of that village do not remain there ; they fly away to some other place to keep their prestige.

When the crowd reach the house of the offender they tie a short charred bit of firewood, a worn-out broom and some used-up leaf-plates on a long pole of bamboo and fix it at the entrance to the courtyard. Within the courtyard they break the

fireplace and all things and even sometimes break the house. Young men in undress desecrate the rooms.

The persons outcasted are not allowed to take food with others, they cannot give their children in marriage within the Santal community. The parents of both sides also would be outcasted, and those who give shelter to these outcasts will be treated like that.

Jam Jati.

By performing this ceremony an outcasted Santal is accepted in society. It is done in the following way :

When both the aggrieved parties are ready to provide the necessary money for the performance of this ceremony they inform the *Manjhiharam* who again informs the *Parganait* of the *bunglow*, and the latter makes it known to the *Parganaits* of other neighbouring *bunglows*. Then a day is fixed for the performance of this ceremony and the person who is to be re-admitted prepares a big feast. Then the outcasted man and woman go out to the end of the village street with a twisted cloth round their necks, and water in a *lota*. To the *Parganaits* and the village chiefs the offenders acknowledge their offence and pray to them, "Have pity on us." The *Parganaits* and the chiefs say, "Since you have acknowledged your offence we do now take and carry all that for you." Then the outcasts take a little water and wash their mouths with it and pass the *lota* round to all the leading men, who do the same. After this they enter the village and the courtyard of the outcasts who personally wash the feet of the leaders of the people. All then sit down in rows to eat, leaf-plates being put before them. On the leaf-plates of the *Parganaits* Rs. 10 is put, on the *Desmanjhis'* plates Rs. 5 and on those of the headmen also Rs. 5.

Disposal of the Dead.

When a person is dying they generally keep the doors open, as the Santals prefer to have the spirit of the departed wandering

about outside the house than taking a permanent abode inside. This is probably one of the reasons why the *Manjhisthan* is built, as it affords a residence to the manes of the departed ; although this *Manjhisthan* is built before the house of the headman of a village yet it seems that the spirits of all deceased villagers are commonly considered to congregate there.

After death the body is carried away on a bedstead by the relatives and villagers who cover the dead body with a new piece of cloth, in one corner of which one or sometimes two rupees are tied. When they reach a cross road some parched rice and cotton seeds are scattered about as a charm against the malignant spirits that might throw obstacles in the way. On that cross road they wait for an hour and the women and relations lament over the deceased. They carry this dead body to the bank of a streamlet near by. The clothes, brass utensils and weapons of the departed are brought with the dead body. These things are sold at half price near the pyre. The pyre is prepared with the wood which is brought from the jungle near by. Before placing the dead body on the pyre, the heir of the deceased with his face averted and walking backwards inserts a piece of grass between the lips of the dead man and places a silver coin in his hand. The dead body with the bedstead is placed on the funeral pyre and a small chip is taken off the collar-bone and deposited in a new pot and the heir then applies fire to the dead body by placing a piece of burning wood on the face of the corpse. Before setting fire to the body it is covered with a branch and four pieces of wood are put on it. A fowl is taken round the pyre thrice and is finally nailed to the south-west corner pole. After the heir had placed a piece of burning wood on the dead man's face, all the relatives and others present throw a log on the pyre and proceed to kindle it. The people sit at a distance and watch the body being consumed. The pot in which the chip of collar-bone is kept, is then buried outside the village. Then they shave and bathe and before they enter the village incense themselves with *sāl* resin. The men who carry the dead man and also who

accompany the dead to the cremation ground drink *handi* bought with the money realised from the dead man's articles. Coming back after consuming the body they hang a pot of leaves in the room where the man had breathed his last. In a cup they put some boiled rice and above the rice they place another pot of leaves containing fried fish. If the next morning some boiled rice can be seen on the fish then they think the spirit of the departed came and partook of a portion of the rice. But if no rice can be seen then they think that the spirit did not at all come there. In this case they believe that something of the departed is left with them, that is why the spirit has not come.

Five days afterwards there is a ceremony called *Tel nāhan*. All the villagers assemble at the dead man's house and shave. Then they go and bathe, the men in one place, the women in another. The men take with them a little earth (used as soap), oilcake, oil, three *sāl* twigs (used as tooth-brushes) and a couple of leaves. The villagers put these at the edge of the water on three separate leaves, and offer all with the left hand first to the dead, then to *Pilchu Hārām* and *Pilchu Burhi* (first man and woman). The last two are invoked to take the dead man under their care. The Santals keep a little bone to throw it in the water of the Damodar river. There is no fixed time for taking the bones to that river. It is the custom of the Santals to wait until a sufficient number of their relatives have died. Along the river there are several *ghāts* where the relative who has brought the bones offers earth and tooth-brushes to the departed and to *Pilchu Hārām* and *Burhi* after he has thrown the bones, etc., into the rivers. He goes into deep water and facing east dives; whilst under the water he lets the bones go. The last function is known as *Chandān*. On the floor of the room where the man breathed his last the eldest son puts a quantity of *aduwa* rice over the plate of *Sāl*-leaves. Then a he-goat is cut by holding the neck over this rice and the blood which falls on them is mixed with the rice properly. All the members of the house take a little of it by taking the name of the departed. Then a great feast is given

by the sons of the departed in which all the relatives and villagers join. When this is over the mourners can resume their ordinary life; but till then they can neither sacrifice nor use vermilion; nor can marriage or any other ceremony take place in the village.

When a little child or a pregnant woman is dead the Santals bury the corpse. After the death the female relatives and villagers, taking a little mustard oil and turmeric (crushed), rub it on dead body covering it with a new cloth, all utensils and other objects of the departed being carried to the burial ground. When they reach the destination they place the bedstead in such a way that the head of the dead body points towards the south. A branch of the *Mowah* tree is put on the bed near the head. The hole is made north to south. All those who accompany the dead do not forget to take a pot with water from the house of the departed and a rupee. All then taking a little water from the pitcher and the rupee touch the hands, feet and mouth of the corpse. They place the body within the hole ; all those who are present there take a little earth and put on the mouth of the dead uttering the following words :

Mā taba khān tahi khanad āla khanem bagaranā
Onāta nsa sanām ko hāsāla amām kānā
Alaho Jaman bis bādala tahen mā.

(*English Translation.*)

You have been separated from us that is why I am giving a little earth to you. Please see that we may remain in good health.

Then cover the hole with the earth. The relatives take a little earth from the burial ground and a nail from the dead body, they then throw these to the Damodar river. In the case of the pregnant woman they insert an iron nail in the sole of the foot. The reason of this is that *Churin bhut* may not come out from the grain.

CHAPTER III

Santal Laws and Government.

It is too early yet to disentangle the various cultural elements which have set their stamp on the village organisation of different parts of India. Socio-economists and students of primitive law are greatly indebted to Prof. Radhakamal Mukherjee for trying to pierce through the veil that surrounds the beginnings of Indian primitive political and juridical institutions by a culture-strata analysis. In his illuminating paper [1] he first of all describes the system in which perhaps the most primitive elements have survived such as the Khond type, mainly characterised by tribal system in a village. The second, the more advanced type, is to be found according to him among the Mundas and the Oraons of Chota Nagpur characterised by tribal government and an agrarian distribution under centralised control. A still more advanced type would be that found among village communities of the Malabar with democratic tribal traditions overlaid by feudal and monarchical tribal tendencies and found in all complexities amongst the most interesting matriarchal Nayars, though there are many patriarchal tribes in Cochin, Travancore and Coorg. Lastly came the fourth type, the Indo-Aryan. The Munda-Dravidian village constitution is contrasted with the Indo-Aryan system. Later on he has found out another type which he calls Mongoloid (which might be termed the Assam type) and he has further differentiated the Indo-Aryan type from N. W. India into the Afghan and Beluchi sub-types. Thus we have the regional economic types of (1) Assam,

[1] R. K. Mukherjee, Village Communities in India, *Man in India*, Vol. III, 1923. pp. 1-27.

(2) Chota Nagpur, (3) Malabar, and Madras (4) and N.W. India, which possibly spread over the rest of India along with Aryan conquest and colonisation. It is quite likely that there would be many sub-types in each. In the Festschrift presented to Pater Schmidt, we have a division of the cultural strata of India into the Ur-folk of Palaeolithic time, the Dravidians with Neolithic shoulder-celt culture and the Aryans with copper or iron, succeeding each other chronologically. Giuffrida-Ruggeri's ethnic stratification of India gives us the Negritos, the Australoid Vedda, Dravidians and different Indo-Aryan races succeeding each other chronologically. Prof. Von Eickstedt's classification gives us interesting zonal ethnic types such as (1) the Veddoid, or Palaeo-Indian, the most primitive group with two varieties, namely Malidae from Northern jungles and Gondidae from C. P. and Chota Nagpur, and (2) the non-Negroid Melanid group with the sub-type of Kolidae followed by two advanced groups of Indidae and Brachydae.

Thus a cultural analysis of a Santal village administration would pave the way for a clear understanding of the economic and political stratification and their history and evolution in ancient India and what was the real contribution of the Assam, Chota Nagpur or Malabar and Madras or N. W. Indian type to it. The Santal type follows closely what has been described as Munda-Oraon constitution ; as the Santals are linguistically and culturally, if not physically, closely akin to the Mundas, Hos, etc., though the Oraons are linguistically quite different.

Santal Administrative Officers.

Manjhi (*Headman*).

The basis of the Santal communal system is the village. Santals will never settle alone in an uncultivated area ; they go there in a body and settle with a leader and his assistants. The leader is known as *Manjhi* (headman), being chosen by the village people to administer the rights, rules and ceremonies of the

Santal village community. No public sacrifice, no festival, no ceremony such as marriage can properly be done without the *Manjhi* taking the lead or initiative. The *Manjhi* is the representative of the village both in external and internal affairs. He also collects rents from the villagers. If the headman of a Santal village be other than a Santals (such as Kumar or Bauri) which sometimes happens, the Santals will have for themselves an official called *Handi Manjhi* who performs all the duties of the Santal village except collecting rent and other work demanded by the government.

Assistants to the Headman—Parāmānik Jogmanjhi

There are two assistants to the *Manjhi* : one is *Parāmānik* and the other is the *Jogmanjhi*. The *Parāmānik* is the principal assistant and representative of the *Manjhi* by whom he is chosen. If the *Manjhi* dies without any male issue or brothers then the *Parāmānik* will get the office. In his (*Manjhi's*) social functions the *Manjhi* is assisted by the *Jogmanjhi*. His duty is to prevent sexual intercourse in the same sept and also with a *diku* (non-Santal). If a girl becomes pregnant the *Jogmanjhi* has to find out who the culprit is. If he does not, the villagers tie him with the rope used for tying a buffalo to a pole in the cowshed of the *Manjhi*, and scold him and fine him. At the time of *Sohrāe parab* all the villagers, young and old, male and female, drink *handi* (rice beer). Singing, dancing and other entertainments go on without restriction for five days and nights and at these times the boys and girls remain in charge of the *Jogmanjhi*. At the birth of a child and at marriages he is in charge of those ceremonies, and when the village youths attend a night festival he is in charge of them. Formerly he had a very important position though now gradually he is losing all authority ; but the young people still use him as a safe repository of their secrets. The *Jogmanjhi* has an assistant called *Jog-Parāmānik* who officiates when he is absent.

Village Beadle—Goddet, (Gorait—Risley).

Next in rank is the *Goddet*, an orderly or peon of the headman of the village, who calls the villagers together at his command and also collects sacrificial fowl for the village sacrifices. Whenever any foreigner comes in the village and enquires about the headman, the *Goddet* at once runs and informs him. (One morning I went to a village at Katikund within Dumka Sub-division. I asked the villagers where the headman of the village was. The *Goddet* said he was in the agricultural field and at once ran to call him. He then came back with the headman to me.) The Santals call the *Goddet Marang Manjhi, i.e.*, great chief, and there are many instances of *Goddets* having ousted a *Manjhi* or even a *Parganait*. If a *Parāmānik* gets the office of *Manjhi* it is considered proper that the *Goddet* should become *Parāmānik*.

Federal Officers (Parganait) and Assistant Federal Officer (Deshmanjhi).

A *Parganait* is an officer who is in charge of several villages collectively known as *bunglow*. (For administrative purposes several villages are grouped together in what is now known as a *bunglow*. The number of villages contained within each vary in every case. The place where I worked, the Sundarpahari *bunglow*, within Godda sub-division, consisted of the following 28 villages—

Villages of Sundarpahari Bunglow.

1. Tetria
2. Domdi
3. Kusumghati
4. Tilabad
5. Amjora
6. Jisubathan
7. Bara Kalajore
8. Choto Kalajore
9. Mohonpur
10. Sundarpahari

11. Salodi
12. Salpathra
13. Paharpur
14. Rampur
15. Jitpur
16. Bara Kalajuri
17. Chota Kalajuri
18. Gamaroe
19. Gamarbera
20. Dahubera
21. Telbitha
22. Jamalpur
23. Jiajuri
24. Ladhapathor
25. Phulberia
26. Manibathan
27. Dhapahari
28. Zolo

As a *Manjhi* has an assistant so the *Parganait* also has one known as *Desh-manjhi*. There are also *Chakladars* who are appointed by the *Parganait* who act as the messengers of the two above officers. Outside the Damin area there is no *Parganait* and *sardars* are appointed by the Sub-divisional officer having a number of *chowkidars* under him.

Custom has made these positions hereditary and there is a formal election system. The eldest member in each house of the village has the power of giving vote. After election the headman's appointment is confirmed by the Sub-divisional officer. The *Parganait* is elected by the headman of all the villages which form a *bunglow*, and his office is confirmed by the Sub-divisional officer and the Deputy Commissioner of that Division, and the *Desh-Manjhi's* appointment is confirmed by the Sub-divisional officer only.

Federal Council and the First Court of appeal : the Panchayat and Kulidrup.

In the month of *Magh* (January and February) the village people gather together after a sacrifice. The headman of the village, taking the lead, resigns his post to the village people ; all the other officials of the village also resign their posts one after another.

Panchayat.

In each *bunglow* there are two councils, upper and lower, like the modern Council House and Assembly of India. The upper is known as *Panchayat* in which the *Parganait* of the *bunglow* presides and the headmen of all the villages of the *bunglow* become members of the *Panchayat.* Affairs of a weighty nature have to be decided in the council.

Kulidrup.

The lower assembly is known as *Kulidrup* in which the eldest member of each house represents the assembly and the headman of the village presides. The indigenous officials of the village described above are *ex-officio* members of the *Kulidrup* and every village has a place for holding the council before the house of the headman of the village which is known as *Manjhi-sthan.* All petty disputes, both of a civil and criminal nature, are settled there but if the matter to be settled is of an immoral and shameful character, they go to the end of the village street or on some other convenient place where they need not fear to hurt the feelings of their womenkind.

Inheritance.

In the matter of inheritance, the Santals follow their own customs and know nothing of the so-called codes which govern the devolution of property among the Hindus. Till the death of the father the property of the family remains intact and all the members enjoy in common. After his death the property is divided amongst his sons equally except that the eldest gets a bullock and a rupee more than the others. As the Santal women have no right to any of the property, movable and immovable, the question of inheritance on their part cannot arise at all. If a man dies

without an issue his property goes to the next agnatic relation. If the father of the deceased remains alive the property will revert to the father; if he is dead it goes to the brothers of the deceased equally ; if the latter are dead their sons succeed. In default of this the paternal uncles and their sons become successors. The condition of the widow of a childless man becomes very bad ; none takes her charge. Sometimes she gets one cloth, a *bāti* (brass vessel), a calf and 10 to 12 maunds of paddy. Sometimes also it can be seen that her husband's younger brothers keep her. Even when one of the younger brothers keeps her, the share of the deceased brother is equally divided between all the brothers. If the younger brothers of her husband do not give her any shelter she returns to her parents' house. If a man leaves only daughters (unmarried) their paternal grandfather or uncles take charge of them and of the widow and the property remains in their possession. They give to these girls the presents which they get during their marriage as their own property, but the bride-price goes to guardians, headman, etc. After marriage the widow gets the perquisites of a childless widow and returns to her father's or to her daughter's house. In many cases it can be seen that one of the sons-in-law becomes *ghārda-jawāe*. He lives with his wife in the father-in-law's house and helps him in every possible way like a son till he dies, when the *ghārda-jawāe* inherits all the immovable property and half the movable property ; the other half goes to the relatives of the deceased.

If a man dies leaving a widow and several sons (minor), then the widow keeps all the property in her possession. The grandfather or uncles of the sons see that the widow does not waste it. If the widow remarries before her son's marriage the grandfather and uncles take possession of the property. The mother of the sons has no right to anything of it. Sometimes it can be seen that the widow a calf which is known as *Bhandkar*. If the widow does not marry again, she lives with her sons, generally with the youngest son. The youngest son then

will get all the personal property of his mother after her death. No other sons can claim it.

Partition.

Partition in a Santal family generally takes place when members become numerous in a family, and a single house cannot accommodate all the members ; or if the sons do not live happily together, specially when the father has married again and had other issue, the parents make a partition. This partition takes place in the presence of the members of the *Kulidrup* (the council of the village people). A *Kulidrup* is called and the father divides all the land, cattle, and other things. The landed property is divided equally, the father and the sons get a share each. The house is also divided equally among the sons and father. If in a house there are four rooms then each will get one, provided all are married. The son with whom the parents live retains possession of their share during their life-time. Unmarried sons get a double share of the live-stock, one share for their marriage expenses. Daughters get no share in the property but if they are unmarried they get one calf each, that being the dowry to be given them at marriage, because during the marriage the bride's side has to give a calf to the brother of the bridegroom. The cattle which the sons get at their marriage are divided. But the cattle which the daughters-in-law received from their fathers, brothers and from their fathers-in-law at the time of marriage are not divided. After the death of the wife of a Santal, her unmarried sons cannot claim a partition even if their father takes a second wife, but they can do so if they like after marriage. If the second wife has got no children when the father dies the sons by his first wife will get the share of the father provided they agree to pay for the funeral of their step-mother.

AN ETHNIC ANALYSIS OF THE CULTURE-TRAITS IN THE MARRIAGE CUSTOMS AS FOUND AMONG THE RĀDHĪYA BRAHMINS OF MYMENSINGH.

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Introduction.

Perhaps no part of the social life of a nation is likely to mirror the entirety of its cultural history as marriage. In a Hindu popular saying birth, death, and marriage are spoken of as pre-destined—so also is the deprecating English saw of 'wiving and hanging going by destiny.' It is quite natural that all the conservative traits and innovating tendencies in the group would simultaneously find their way in marriage ceremonies. The funeral customs would be resistent naturally to all new traits but marriage being the great occasion of group-relaxation would likely bring into full play all the suppressed social subconscious side by side with the desires of wish-fulfilment evoked by new conditions. Superficially, the ceremonies seem to perpetrate the good old customs and to keep up the mask of old traditions, but in reality concessions, at least in marriage ceremonies, have always to be made to the latest fashions. But the difference between the Indian tendencies and prevailing modes in other parts of the world is that owing to the presence of a social hierarchy, with its dues and rights inevitably linked with certain ceremonies, it is hard to give here even the least bit the go-by. Then again, the dread of misfortune to the wedded pair would always make the old ladies force others to keep up the old items though to the addition of new items they could hardly object. Thus, amongst the presents to the bride, to

mention one example, there is still the insistence of presentation of a brass mirror, a custom perhaps which could be found in the early Bronze Age, but side by side is presented also the latest model of the most fashionable mirrors. Thus the marriage ceremonies not only drag on a long trail of the past, but is always adding new flowers from the present-day modes. In short, the marriage ceremony, rather than any other custom, if properly analysed, is likely to provide us with the various dominant phases of social mood and cultural fashions in anomalous juxtaposition.

In dealing with the custom of marriage among the Rādhiya Brahmins of Bengal I shall confine my attention to the district of Mymensingh alone as a field under personal observation. It would be a Herculean task to note down all the different variations of the marriage customs, as they prevail today, in all the different parts of Bengal.

Forms of Marriage.

In ancient India there were eight forms of marriage. They were—(*a*) Brāhma, (*b*) Daiva, (*c*) Prājāpatya, (*d*) Ārṣa, (*e*) Āsura, (*f*) Rākṣasa, (*g*) Gāndharva, and (*h*) Paiśācha. In a passage in one of the Gṛhya Sūtras we find that all the eight forms of marriage enumerated above are described in the order of their preference. It runs thus—" (1) (The father) may give away the girl, having decked her with ornaments, pouring out a libation of water : this is the wedding (called) Brāhma. A son born by her (after a wedding of this kind) brings purification to twelve descendants and to twelve ancestors on both (the husband's and the wife's) sides. (2) He may give her, having decked her with ornaments, to an officiating priest, whilst a sacrifice with the three (Śrauta) fires is going on : this (is the wedding called) Daiva. (A son) brings purification to ten descendants and to ten ancestors on both sides. (3) They fulfil the law together : this (is the wedding called) Prājāpatya. (A son) brings purification to eight descendants and to eight ancestors on both sides. (4) He may marry her after having given a bull and a cow (to the

girl's father) : this is the wedding called Ārṣa. (A son) brings purification to seven descendants and to seven ancestors on both sides. (5) He may marry her, after a mutual agreement has been made (between her lover and the damsel) : this (is the wedding called) Gāndharva. (6) He may marry her after gladdening (her father) by money : this (is the wedding called) Āsura. (7) He may carry her off while (her relatives) sleep or pay no attention : this (is the wedding called) Paiśācha. (8) He may carry her off, killing (her relatives) and cleaving (their) heads, while she weeps and they weep : this (is the wedding called) Rākṣhasa." (Asv. I. 6. 1-8.) Many of the above forms are met with even to this day—of course, more or less modified. Among the higher castes of Bengal we find mainly two kinds of marriage which partake of the nature of the Brāhma and the Āsura forms.

Bridegroom-price.

The evils of the dowry system have not yet cast their baneful spells upon the Rādhiya Brahmins of Mymensingh. Acceptance of money-consideration by the bridegroom's party is greatly looked down upon by them. But it is generally found that the bride's father gives some dowry in kind at the time of marriage. This he does according to his means. The presents to the bridegroom by the girl's father are collectively known as "Barābharan."

Match-maker.

One conspicuous feature of Mymensingh is that the well-known and ever-present face of the 'Ghatak,' or the match-maker, is nowhere to be seen. Marriages are settled by the heads of the families themselves. There are still people who can tell you, if asked, the names of the fathers of all the marriageable boys and girls within the society, their social status, lineage, and whether there is any bar to the marriage on account of the parties falling within the prohibited degrees, or for any other reason. Comparing of horoscopes is not given so much importance as is done in West Bengal. All that are necessary for settling a marriage is the family, its tradition, and its social status.

The custom of "Kōnē-dekhā" or the seeing of the prospective bride for approval does not obtain in the district of Mymensingh. This is contrary to the prevalent custom amongst the higher castes in other parts of Bengal. There are, however, some families, as our information goes, of Dacca Brahmins (Varendra) who refuse to show their daughters to the guardians of the prospective grooms. In the district of Mymensingh the bridegroom's party has got to make their choice on secondhand information. Being a small community practically everybody knows one another, so the secondhand information is, in most cases, reliable. Even if the bridegroom's party had seen the prospective bride before the marriage negotiations were carried on, they must not see her after they have made the proposal of marriage.

Kōnē-dekhā.

After the preliminary talks have been concluded between the parties and they have agreed upon the marriage, an auspicious day is selected and a formal letter of proposal by the father of the bride to that of the bridegroom is written. This letter is written with red ink and bears three marks of vermilion mixed with mustard oil on the top of the letter. It is then sent to the bridegroom's father per bearer who must be a Brahmin. Generally some sweetmeats are also sent with the letter. From the date on which the letter is sent, the girl is regarded as betrothed. This is only a kind of contract entered into by the parties to the marriage in the presence of some respectable members of the society. Opinions are divided on the question of revocability of marriage after 'Vāgdān.' Manu says, "Neither ancients nor moderns who were good men have ever given a damsel in marriage after she had been promised to another man" (Manu, Ch. IX, 99). But Nārada and Yājnavalkya admit the right of a father to annul the betrothal to one suitor if a better match presents itself ; and either party to the contract is allowed to withdraw from the contract where

Bāgdān.

certain specific defects are discovered. But in Bengal such revocation is followed by a social censure, and the father of the girl finds it very difficult to arrange for another marriage.

Time.

Most of the Gṛhya Sūtras are of opinion that marriage ceremonies should be held "during the northern course of the sun, in the time of the increasing moon, on an auspicious day" (Sān. I. 5. 5). Aśvalāyana prescribes that it should be celebrated 'under an auspicious Nakṣatra' (Asv. I. 4. 1). Āpastamba agrees to the season fixed by others, but in one verse he goes on to say—"All seasons are fit for marriage with the exception of the two months of the Śiśira season, and of the last summer month. All Nakṣatras which are stated to be pure (are fit for marriage)" (Ap. I. 2. 12 and 13). He specially recommends the Svātī Nakṣatra. At present the months selected for holding marriage ceremonies are Baiśākh, Jyaiṣṭha, Āṣārh, Śrāvaṇ, Agrahāyaṇ, Magh, and Fālgun. Marriages of eldest children generally do not take place in the month of Jyaiṣṭha. The last three months mentioned above, *viz.*, Agrahāyaṇ, Māgh, and Fālgun are generally preferred. Marriages sometimes take place in the months of Bhādra and Kārtik also—this is only by way of exception.

Age of Marriage.

Before the passing of the Sarda Act prohibiting child-marriage, the age of marriage among girls generally varied between 10 and 14. But after the said Act came into force in 1931 the age of marriage among girls generally varies between 14 and 16. A majority of the girls are married before they complete their sixteenth year. Even a couple of decades back post-puberty marriages were rare among the Brahmin girls. The age of marriage of the males is also higher these days. When pre-puberty marriage was the rule the age of the bridegroom varied between 16 and 21 ; but now-a-days they generally marry between 21 and 25.

Many scholars are of opinion that in the Vedic Age marriage was considered to be the union of two persons of full

development. Ghōṣā, who contributed a hymn to the Ṛg Veda, appears to have been advanced in age before she could find a suitor. In the Ṛg Veda we find that the essential features in the marriage ritual are the taking of the bride to her husband's house, and the cohabitation on the fourth night after marriage. This has also been referred to in many of the Gṛhya Sūtras. It indicates that girls were married after they had attained puberty. But there are other hymns in the Ṛg Veda in which the marriage of a girl before puberty is evidently referred to, *e.g.*, the case of Romaśā, the wife of Bhābayabya, king of the banks of the Indus. In the Chāndōgya Upaniṣad, one of the earliest works on Sāma Veda, we meet with the mention of child wives.

Polygyny.

Even a few years ago it was not uncommon to find a man having two or three wives at a time. But this practice of polygyny is rarely met with to-day. What with the economic depression and what with the progress of civilization, the idea of having more than one wife at a time is treated with abhorrence by the youngmen of modern Bengal.

Before any of the marriage ceremonies are gone through several preliminary rites have to be performed. I shall try to give exhaustive details of them in the order of their priority. The first ceremony connected with marriages is known as the ceremony of 'Pinning the betel-leaves,' or "Pāna-khil," as it is popularly called. Nothing in connection with the proposed marriage can be done unless this ceremony has been performed. Even the marketing for the marriage must be done after this ceremony. It is generally performed about a month or a fortnight before the date of marriage.

The ceremony of "Pāna-khil."

Early in the morning of an auspicious day a married lady of the Brahmin caste will draw a circle with a mixture of powdered rice and water. Various designs are drawn within the circle. This circle having various designs within it is known as "Ālpanā." There is no hard and fast rule that a specific design should be

made. This Ālpanā is generally drawn in the middle of the courtyard. A few grains of paddy and a few Dūrvā grass (*Agrostis lincaris*) are then strewn over the Ālpanā. Some curd and a fish are then placed near it. After this that lady or any other married lady will proceed to the nearest tank or river, as the case may be, with a small pitcher (*ghat*) and several other ladies will follow her singing the folk songs which relate to the marriages of Śiva and Pārvatī, Sāvitrī and Satyavān, etc., and she will come back after filling the pitcher with water. This pitcher she will place in the centre of the Ālpanā and five spots are marked into the body of the pitcher with vermilion mixed with oil. A mango twig with five leaves are then placed within the pitcher. This being done, three or five married women will sit near the Ālpanā with several betel-leaves, betel-nuts, and a few bamboosticks of the size and shape of a tooth-pick, all placed in a sieve. The ladies will then pin up those leaves taking three each with three betel-nuts inside. Each one of them pins up twenty-seven betel-leaves, *i.e.*, the pinning is repeated nine times. There must be plenty of betel-leaves and betel-nuts left after this pinning up. At the time of the "Pāna-khil" the ladies will sing and make 'Ulu' sounds, *i.e.*, a kind of sound made by the vibration of the tongue, with their mouths. The betel-leaves and betel-nuts are then offered to the household deity, and after this these are distributed among the ladies present there. Mustard oil, vermilion and sweetmeats are also freely distributed. Betel-leaves, betel-nuts, oil, vermilion, and sweetmeats are then sent to the houses of the relatives in the village or villages adjoining. This finishes the ceremony of "Pāna-khil."

The Pujā of Barkumār.

The Pujā of Barkumār, which is nothing but an offering to the goddess Bhagavatī, is performed about a week before the wedding. This offering is made in order to secure a blissful conjugal life to the bride and the bridegroom. The ceremony is very simple: fried rice, burnt rice, sunned rice, powdered rice and paddy are separately placed

in five plantain leaves the tips of which are uncut (*āngat pātā*) and they are offered to goddess Bhagavatī.

Gāchēr Guṇrīr Brata or the worshipping of the tree trunk.

The next ceremony is the worshipping of the tree-trunk (gāchēr guṇrīr vrata). It may take place on the same day on which the Pujā of Barkumār is performed. Generally a banian tree (*Ficus religiosa*) or a Seorā tree is chosen. An offering consisting of some sweetmeats, fried rice, mustard oil, vermilion, fish, and some length of red thread are placed on a winnowing fan. A married woman carries the offering to the tree. She then washes the tree trunk and the adjoining land with water which she must fetch herself. Then she winds the red thread seven times around the tree trunk, and puts some vermilion mixed with mustard oil to it. The priest then offers those things to the goddess Vana Durgā after chanting some Mantras. The offerings are left there and are generally taken by the lower castes. In some villages the red thread is unwound after the offering is made and is tied to the wrist of the bride and the bridegroom, as the case may be.

It should be mentioned in this connection that all the above ceremonies and several others as well take place in the houses of both the parties. It is also essential that all the ceremonies, starting from "Pāna-khil" up to "Hasta-sparśa" must be accompanied by some kind of music. Generally, even in the poorest families, we find the beating of "Dhōl," or a kind of drum, and "Kāṅśi," a kind of musical instrument made of bell-metal, usual.

Tēl-kāpar.

On the day previous to which the wedding takes place a ceremony known as "Tēl-kāpar" takes place. An auspicious moment is chosen in the morning and the bridegroom dips the toe of his right foot in some mustard oil mixed with powdered grains of fenugreek (*Māthī*); this mixture is technically known as 'Gandha-tail,' or scented oil. The remainining 'Gandha-tail' and five different shades of coloured powders are placed in a tray and are sent to the house of the bride. The tray must not be touched by any one other than a

Brahmin. Clothes, vermilion, vermilion-boxes, conch bangles, betel-leaves, betel-nuts, fish, sweets, oil, *ghee*, flour, vegetables, cooking and other utensils, etc., are also sent with the 'Gandha-tail.' Several Ālpanās, as I have described before, are drawn in the courtyard of the bride's house and the things that are sent from the bridegroom's house are placed upon those Ālpanās. As soon as the bearers of 'Gandha-tail,' etc., reach the bride's house the ladies greet them with 'Ulu' sounds. Now-a-days they also blow conch-shells.

The bride rises early in the morning previous to the wedding day and she is made to sit on a thin mat (*pātī*) with an oil-lamp burning in the room. A small pitcher containing water is also placed there. This is known as making the bride sit for "Adhivāsa." She sits there until the 'Gandha-tail' reaches there from the bridegroom's house. As soon as the 'Gandha-tail' reaches there she is smeared with that oil and is bathed with water brought by five married ladies in small new pitchers. I may mention here that women in the neighbourhood assemble in the houses of both the parties early in the morning of the day on which the ceremony of "Tēl-kāpar" takes place, and they sing folk-songs like the ones I have mentioned before.

The fish, vegetable, sweets, betel-leaves, etc., which are sent from the house of the bridegroom, are not consumed by any of the bride's relatives. They are generally distributed among the neighbours. Goddess Kāli is also propitiated on the same day.

Chōre-Pāni.

On the wedding day the mother of the bride gets up long before sunrise and taking a new pitcher places a plantain, a *cowrie*, a brass ring, a myrobalan, and a *Baherā* fruit within it. Then she proceeds to the nearest tank or river with the pitcher, a knife and a piece of cloth dyed with turmeric. She is generally followed by one or two ladies. On reaching the tank or river, as the case may be, she enters knee-deep into the water, passes the knife three times through the water imitating the act of cutting, and then fills the pitcher with water. This is known as filling the

pitcher with water stealthily, or, in a more technical language, filling the pitcher with "Chōre-pānī." She then comes back with the pitcher after covering its mouth with the yellow piece of cloth. She places the pitcher in the room of the bride. Then the ladies of the house, along with the bride, takes flattened rice mixed with curd and sugar. After this the bride is made to sit on a thin mat amidst ' Ulu ' sounds. An oil-lamp, placed on a lamp-stand, is kept burning in the room. A brass mirror and about half a cubit's length of very green rolled-up tip of a sprouting plantain leaf, wrapped up in a piece of cloth dyed with turmeric (*Curcuma longa*), is given to the bride. She must not part with it till after the marriage ceremony is over. Both the bridegroom and the bride must fast on the wedding day.

Sōhāg-māgan.

In the morning the mother of the bride places a new piece of cloth with a red border on a winnowing fan and places on that cloth four small earthen pots containing vermilion, mustard oil, turmeric, and " Rādhni " which is a kind of parsley. Then she covers the pots with a fold of that new cloth. A betel-leaf and a betel-nut is then put into the mouth of the bride's mother. She then takes the winnowing fan on her head and sets out for the houses of the relatives of her husband in the village followed by two other married ladies. One of them carries a pitcher half full with water, and the other carries some powdered rice mixed with water and five betel-leaves. People with " Dhōl," " Kānsi " etc., also follow them. They visit five of the houses of the relatives of the bride's father. When they go to one house they must not enter any of the rooms, nor must they speak. In front of the door-lintel one of the ladies draws a line with powdered rice mixed with water, places a betel-leaf on that line, and the mother of the bride places the winnowing fan on the ground just beyond the line. The housewife then comes to the door and without crossing the lintel puts some vermilion, mustard oil, turmeric, and " Rādhni" into the four pots and pours some water into the pitcher. This is done in all the five houses.

Then coming home the mother of the bride will tread on some paddy, placed beforehand on a mat, in such a manner that at least five grains of rice come out of them. She picks up five grains of rice thus husked and ties them in one corner of her cloth. The winnowing fan is then placed on an Ālpanā in the court-yard. Some paddy is put into a husking implement made of wood (*udukhal*) which is placed near the Ālpanā. A spade, a pestle for husking rice, and a yoke are also kept there. The father of the bride then comes and stands with his back towards the winnowing fan and keeping his legs apart. Then he holds the spade with his hands, digs some earth with it, and throws the earth into the winnowing fan placed in between his legs. After this the father and mother of the bride come near the husking implement. One of the married ladies present there puts a knot in the hems of their cloths and thus joins them. Then the father of the bride takes the yoke up and the mother takes the pestle and they husk the paddy together. The rice thus husked are used in the porridge for "Kṣīr-bhōjan" which I shall describe later in its proper place. The above ceremony is known as "Sōhāg-māgan." This ceremony is performed by the bridegroom's mother also.

At an auspicious hour at noon the bridegroom is smeared with a paste made by grinding together green turmeric and a seed of *Mimosa scandens* (*gilā*) with water. Then he is bathed, amidst music, folk-songs and 'Ulu' sounds, with water brought by five married ladies in five new pitchers. After the bridegroom has been so bathed, information is sent to the bride's house where she is also subjected to exactly similar operations.

Abhyudayika Śrāddha or Nāndīmukham.

In the forenoon, either before or after the ceremonial bath, the father of the bridegroom offers oblations of water, rice and fruits up to three generations on both his father's and mother's side. In case his father is living, the oblations are offered to the three generations starting from his grandfather (father's father). Similarly, if the maternal grandfather (mother's father) is living,

he will offer oblations up to three generations on the male line starting with the maternal great-grandfather (mother's father's father). We need not bother about the details of this ceremony. It is known as "Ābhyudayika Śrāddha" with which the blessings of the forefathers are solicited on the threshold of a householder's life. The father of the bride also performs the "Ābhyudayika Śrāddha." In case the father is unable to perform the Śrāddha, he may depute any of his agnates to perform it for him.

Śubha-yātrā.

At an appointed moment the bridegroom, fully dressed, and wearing a coronet made of cork, performs the ceremony of "Śubha-yātrā." The details are as follows: A wooden seat is placed just beyond the door-lintel of the biggest room in the house. In front of that seat is placed a small pitcher filled with water, and within that pitcher is placed a mango twig with five leaves. Besides this there are placed near about the pitcher, a burning oil lamp in a lamp-stand, some raw fish, curd, vermilion mixed with mustard oil, a few grains of paddy and some Dūrvā grass (*Agrostis lincaris*). The bridegroom sits on that seat and the priest makes him chant some Mantras or hymns. The bridegroom, at the time of chanting the Mantras, takes a leaf of the wood-apple tree and smells it all along. He throws it away after the chanting is over, gets up and takes the dusts from the feet of all the elders. They in return bless him by strewing a few grains of paddy and Dūrvā grass on his head. He then starts for the bride's house amidst music and 'Ulu' sounds. Just as he begins to move, his sister thrusts a broken needle at the back of the coronet, and the bridegroom behaves as if he is not aware of it. The origin of this custom may be traced to the belief among many peoples, both primitive and civilized, that iron protects a person from the influences of malevolent spirits. The mother of the bridegroom then shows him a leaf of the *Mān* (a kind of prickly shrub) and asks him, "What is that you see in my hand?" To this the bridegroom replies, "It is a *Mān* leaf. I am leaving

my Mān (heart) to you." It is customary that the marriage ceremony must take place at the bride's house. The bridegroom must be accompanied by the family priest and a barber.

On hearing that the bridegroom's party is approaching, the mother of the bride takes some roots of arum, some earth procured from the house of a prostitute, and the five grains of rice which she had tied to the corner of her cloth at the time of "Sōhāg-māgan." She places these things on a flat stone used for grinding spices (*Sil*). Then she takes a pair of betel-nuts which must have one common stem and a *cowrie*, rubs them against the arum roots, and reduces the roots, the earth, and the rice to pulp. She then scrapes out the paste with a strip of bamboo given to her by the barber. She sits on a big dish made of stone at the time of doing this. This is known as "Sōhāg-bātā," or the grinding of the "Sōhāg." As soon as the party arrives outside the boundary of the bride's house, the father of the bride comes out along with other relatives and invites each one of the party individually to come to his house and perform the ceremony. They then go inside the house. There is a custom in some villages that the bridegroom is lifted up by the servants, is taken into the house, and is placed on a special seat. As soon as the mother of the bride is informed that the bridegroom has taken his seat, she smears a little of the paste made with arum roots, earth and rice, on the forehead of the bride, takes out the betel-leaf and the betel-nut which were put into her mouth at the time of "Sohāg-māgan," and puts them into the mouth of the bride who immediately throws them away. Then the mother of the bride shuts herself up in a room and comes out under no pretext until the "Sampradān" or the giving away of the bride is over, nor will she speak during that period.

The actual marriage ceremony takes place in the open courtyard under the canopy of stars. An area of four cubits square is bounded by four plantain trees which are planted into the ground. A white thread is wound seven times around the plantain trees at a height of about five feet. Mango leaves are then tied to the

thread on all sides. In the centre of the area is dug a shallow depression, twenty-one finger-breadths square, *i.e.*, about half a cubit square, representing a pond. Ālpanā is also drawn on the four sides of the depression. A new earthen pitcher is then placed into that supposed pond. It is filled with water and contains a mango twig having five leaves, and five vermilion spots with a symbolic figure of Gaṇeśa, the god of success, are drawn with vermilion on the body of the pitcher. It is then covered with a piece of cloth dyed with turmeric-paste dissolved in water.

At the appointed hour the bride's father, taking permission from the father of the bridegroom, asks the servants to lift the bridegroom up and take him to the place mentioned above. The bridegroom sits on a painted wooden seat facing east and the person who gives away the bride faces north. The family god (*Śālagrām Śilā*) is placed within the area and the priest faces south. A water vessel made of copper is also placed before the bridegroom's seat. Other things which are placed within the area are—two rings made of *Kuśa* grass, flowers, sandal-paste, sunned rice, leaves of the wood-apple tree, two bunches of *Kuśa* grass about half a cubit long with a knot of a particular kind on the top (Viṣtara), an oblation of curd, sugar, milk and honey (*Madhuparka*) in a small cup made of bell-metal, five kinds of fruit, *viz.*, emblic myrobalan (*Āmlakī*), myrobalan (*Harītakī*), *Baherā* fruit, betel-nut and nut-meg tied to a towel. The presents to the bridegroom are also placed near the plantain trees, and the pitcher containing "Chōre-pānī," described before, is kept near the bridegroom's seat.

The order of relatives who can give away the bride is given below. The former ones are preferred to the latter ones :

1. Maternal uncles.
2. Paternal uncles.
3. Brothers.
4. Father.
5. Agnates.
6. Cognates.
7. Sapiṇḍas.

Unlike Western Bengal, females are not allowed to give away the bride.

As witnesses to the marriage ceremony the members of the bridegrooms's party must be present in the courtyard at the time of marriage. The spiritual preceptors of both the families must also be present there.

In this connection I should mention that none of the bridegroom's party, including the bridegroom, must partake of any cooked food in the bride's house on that night. They are generally treated with light refreshments, and rice, pulses, raw fish, meat, etc., including cooking utensils, are sent by the bride's people to the place fixed for the residence of the bridegroom's party. The members of the bridegroom's party must cook their own food.

Seeing that everything is in order, the person giving away the bride, who has been fasting all day, takes three sips of water from the receptacle placed in front of him and utters the name of god Viṣṇu preceded by the word "Oṃ" with every sip of water, and then salutes god Viṣṇu with Mantras or hymns. He then makes floral offerings to god Gaṇeśa, Sūryya or the Sun, the nine planets, Śiva, Brahmā, Indra, Agni, Yama, Varuṇa, Marut, Kuvera, Īśāna, Ananta of the nether regions, and Nairṛt. The last ten are collectively known as "Daśadikpālas." He also makes floral offerings to Prajāpati and Nārāyaṇa with Mantras. He then takes a few grains of sunned rice and throws them in the direction of the pitcher, with Mantras. Next, he faces towards the bridegroom, who wears a coronet on his head, and with Mantras he asks him to take his seat, pays homage to him, and makes a floral offering to him.

Varaṇa.

The bridegroom is then given a silk cloth and a scarf (*Uttarīya*), another coronet made of cork, and a sacrificial thread. He changes these for the cloth, coronet, and sacrificial thread he was wearing before. The cloth is taken away by the barber of the bride's party. He is then asked to remove the piece of cloth which covers the

mouth of the pitcher containing "Chōre-pānī," described before, which is kept near one of the plantain trees. At this the bridegroom removes the covering, dips his hand into the water, and takes out any one of the things from within the pitcher. Then he replaces the covering of the pitcher and ties it with the discarded sacrificial thread. He is then garlanded and is again asked to sit down. The person giving away the bride then takes a few grains of sunned rice and touching the right knee of the bridegroom with his right hand says, in course of uttering Mantras—"Thou belonging to such and such clan, such and such moiety, great-grandson of such and such person, grandson of such and such person, son of such and such person, do I select as the husband of X (he utters the name of the bride) who is the great-grand-daughter of such and such person, grand-daughter of such and such person, daughter of such and such person, belonging to such and such clan, and such and such moiety." The bridegroom replies, "I have been honoured by your selection." To this the giver says, "Please proceed with the necessary ceremonies." The bridegroom replies, "I shall do it to the best of my ability."

Śubha-dṛṣṭi.

After the selection of the bridegroom comes off "Śubha-dṛṣṭi" when the bride is carried to the place of marriage, fully decked with ornaments, clothes, and flower garlands, in a painted wooden seat. She sits on the other side of the painting, and faces towards the bridegroom, *i.e.*, faces west. The towel containing the five kinds of fruits mentioned before and some sunned rice are put into the hold of the stool she is sitting upon. A new piece of cloth is folded and placed on the rice. She takes her seat on the cloth. Then amidst loud cheers, music and 'Ulu' sounds the bride and the bridegroom are lifted up by the servants about four feet above the ground and the bride is asked to look at the bridegroom full in the face and at the same time offer floral tributes to him. She is then made to take off her garland and place it on the neck of the bridegroom, who also does the

same thing. This is known as "Mālā-badal," or the exchanging of wreaths. Then the bride is carried round the plantain trees always keeping the bridegroom to her right. This is done seven times and with the completion of every round the bride is made to offer flowers to the bridegroom, look at him, and exchange garlands with him. At the end of the seventh round a scarf is spread over the heads of the bride and the bridegroom and they are asked to take a full view of each other. Then the bride takes two cylindrical sprouting green plantain leaves, about half-a-cubit long, touches the chest of the bridegroom with them, and throws them away over the head of the bridegroom. This is repeated seven times. Seven pairs of betel-leaves are also thrown away over the head of the bridegroom in the same fashion. They again exchange garlands. This finishes "Śubha-dṛṣṭi." Both of them are then put back on the ground.

It will not be out of place if I mention here that unlike the practice in Western Bengal, the bridegroom is not subjected to the long and tiresome custom of "Strī-āchār" which precedes "Śubha-dṛṣṭi." The bridegroom thus escapes the practical jokes which are then generally practised on the bashful grooms. The reason of the absence of "Strī-āchār" is not far to seek—the Purdah system being strictly enforced in the area, the ladies do not come out of doors in order to perform the "Strī-āchār."

Pādya.

After the "Śubha-dṛṣṭi" which is also known as "Mukha-chandrikā" in Mymensingh, the bridegroom and the bride sit face to face, the former facing east and the latter west. The person giving away the bride hands over to the bridegroom one "Viṣṭara," described before, and he accepts it. Both the handing over and the acceptance are followed by Mantras. With another Mantra the bridegroom places the "Viṣṭara" under his left knee. This is repeated once more, and this time the "Viṣṭara" is placed under the right knee. The bridegroom is then offered some water in a small copper spoon, with Mantras, to wash his feet

with. This is repeated three times. At first he pours the water on his left foot, then on his right foot, and, finally, on both the feet.

Argbya.

Next, the giver takes some "Dūrvā" grass, sunned rice, flowers, sandal-paste, and a few leaves of the holy basil, in a copper tray and offers oblations to the bridegroom who takes it and puts it aside after touching it with his forehead. This is followed by a offering of water to him for washing his mouth. The bridegroom then faces north and takes three sips of water offered to him, and again turns to the east. He is then offered curd, sugar, milk and honey (Madhuparka) in a bell-metal cup which he accepts and keeps aside after smelling the contents thrice.

Sampradān.

The bridegroom then takes three sips of water with the words "Ōṃ Viṣṇu," followed by praise of Viṣṇu. Then the bridegroom holds the right palm of the bride with his right palm in such a manner that the outer side of the bride's palm rests on the inner side of the bridegroom's palm. The priest then places the towel, containing the five kinds of fruit, over their palms after tying the palms with a few Kuśa grasses and flower wreaths. He then places the joined palms on the pitcher which had been placed into the symbolical pond, described before. Then the giver touches a portion of the bride's garment and dipping a leaf of the wood-apple tree in water sprinkles some water over the bride with Mantras ; this is repeated three times. Then he takes some flowers with sandal-paste and offers them to Prajāpati, the presiding deity of marriage, and then to the bridegroom. Then he puts a leaf of the wood-apple tree, flowers, sandal-paste, a few grains of sesamum, a few grains of barley, and a few leaves of the holy basil plant (*Ocymum sanctum* or Tulasī) into the water of the copper receptacle and holding it with his right hand chants the following Mantras—"Ōṃ Viṣṇu, on this day of such and such month, when the sun is in the such and such sign of the zodiac,

on such and such half of the lunar month, and on such and such day of the moon, I, X (the giver utters his own name), belonging to such and such clan, hoping that it will please god Viṣṇu, pay homage to you, the great-grandson of A grand-son of B, son of C, belonging to such and such clan and such moiety." (Purōhitadarpaṇa, p. 427.) This he repeats thrice, and after that he utters the names of the great-grandfather, grandfather, father, and of the bride with their clan and moiety. This is also repeated thrice. Having thus uttered the names of the three generations in the male line of both the parties he gives away the bride with the following Mantras:—"I do give away to you this girl, decked with ornaments and garments, after paying homage to god Prajāpati."[1] After chanting the above Mantras he pours out the water with its contents over the joined palms of the bride and the bridegroom. The bridegroom then accepts the gift and praises the god of Love with Mantras.[2] After the gift and its acceptance, the giver again chants some Mantras with which he offers something made of gold, generally a gold ring, to the bridegroom as the sacrificial fee (dakṣiṇā). This is also accepted by the bridegroom with the words "Ōm svasti."

Gāṇṭ-charā.

After this the giver makes a gift of the other articles meant for the bridegroom. Then the priest ties one end of the towel containing fruits to the scarf of the bridegroom and the other end is tied to the hem of the bride's garment. This is known as the tying of the "Gāṇṭ-charā."

Kṣīr-bhōjan.

The bride and the bridegroom, after saluting god Nārāyaṇa, rise from their seats and are taken to a room where there is placed a quantity of a kind of porridge, made of milk, sugar and rice, in a stone dish. The bridegroom offers the porridge to the five presiding deities, *viz.*, "Prāṇa,"

1 "Savastrāṃ sālaṁkārāṃ Prajāpatidevatākāmarchitām tubhyamahaṃ sampradade."

2 "Oṃ svasti kanyeyaṃ Prajāpatidevatākā," and "Oṃ ka idaṃ kasyā adāt kāmas kāmāyādāt kāmah pratigrahītā kāmas samudramābiśat kāmena tvā pratigṛhṇāmi kāmaitatve." Purohit Darpan, p. 428.

" Apāna," " Vyāna," "Udāna" and "Samāna," after taking a sip of water with Mantras. Then he divides it into four by means of two lines drawn diagonally across the dish with his ring. Then he gets up and the bride is made to take a portion of that porridge. This is known as " The eating of the porridge " or "Kṣir-bhōjan." The bridegroom must not eat anything belonging to the bride's house on the night of wedding. Some sweetmeats and fruits are taken from his house which he may take. But if the " Kuśaṇḍikā " is performed that very night he may take the food offered by the bride's party.

The " Kuśaṇḍikā," or the offering of sacrificial oblations to the gods confirms the marriage. No marriage is deemed complete unless this ceremony has been gone through. If time permits, "Kuśaṇḍikā" is performed on that very night. Otherwise, it is performed on the following morning. All the articles necessary for the performance of "Kuśaṇḍikā" have to be brought from the bridegroom's house. The following articles are necessary for the performance of "Kuśaṇḍikā," or, as is otherwise known, " Uttara Vivāha " :—Sand, wood of the wild fig tree, dried pith of the jute plant, cowdung, *ghee* made out of cow's milk, a receptacle for *ghee*, a few twigs of the wild fig tree (*samidh*), a dish full of rice, pulse, *ghee*, etc., called "Pūrṇa Pātra," curd, parched grains, leaves of the Sami tree (*Acacia suma*), leaves of Viraṇ shrub (*Véṇa pātā*), vermilion, a small new pitcher, a stone pestle, a flat curry-stone, a big pitcher full of water, winnowing fan, flowers, leaves of the holy basil plant (*Ocymum sanctum*), a few grains of sesamum, myrobalan, and a silver or gold coin.

Kuśaṇḍikā.

Sand is spread on the earth making a place for sacrifice. The area over which the sand is spread must be one cubit square. This is known to be the sacrificial altar. A pitcher filled with water is placed to the south of the altar ; a few parched grains, together with a few leaves of the Sami tree, are placed on a winnowing fan which is placed to the north of the altar. To the west of the winnowing

fan are placed a pestle made of stone, and a flat curry-stone. To the west of these things are kept a few leaves of the Viraṇ shrub covered with a piece of cloth.

The bridegroom sits to the west of the altar, facing east. The family deity is placed somewhere near the altar. The bridegroom takes his seat after bath, and the bride, after being bathed, is also brought there fully decked with garments and ornaments. The bride stands, with her back towards the altar, to the right of the bridegroom. The bridegroom offers her a piece of new cloth for wearing followed by some Mantras. The cloth is touched with the body of the bride and is kept aside. Then, after lighting the sacrificial fire, the bride is made to turn her face towards it and the bridegroom chants some Mantras. The bridegroom then gets up and makes the bride walk a few steps with Mantras which mean that the bride is being led to her husband's place. Then the bride and the bridegroom sit side by side facing the fire, the former sitting to the right of the latter. A twig of the wild fig tree, or Samidh, is then thrown into the fire after being dipped in *ghee*. The bridegroom then performs the "Mahā-vyāhṛti Hōma." After this the bride touches the right shoulder of the bridegroom with her right hand and the latter offers six oblations of *ghee* with Mantras. This is known as "Ājya Hōma." Ājya Hōma is followed by "Vyāsta-samasta Mahā-vyāhṛti Hōma." Then two oblations of *ghee* are offered to Agni and Sōma.

Aśmākramaṇa.

Both the bridegroom and the bride then get up and the bride stands in front and to the left of the bridegroom. Then both of them go near the pestle, resting on the flat grinding-stone, placed to the north-west of the fire and stand there facing north. Remaining in that position the bridegroom places his hand under the joined palms of the bride, and the bride is then asked to tread on the stone with her right foot. This is known as "Aśmākramaṇa."

[1] See also N. M. Penzer, Tawney's translation of *Ocean of Story*, Vol. VII, p. 188.

Lāja Hōma.

The brideg room then pours some *ghee* on the joined palms of the bride and again holds them in the manner stated above. Then the priest puts some parched grains on the joined palms of the bride. The bridegroom then chants some Mantras and the bride throws the parched grains mixed with *ghee* into the fire. This is repeated four times, and every time it is preceded by "Aśmākramaṇa." Finally, the bridegroom pours some *ghee* into the winnowing-fan containing the remaining parched grains, and the bride holds the winnowing-fan. The bridegroom touches it with his right hand and whole of the contents are poured into the fire with Mantras and then the bride and the bridegroom walk three times round the sacrificial fire always keeping it to their right. This rite is called "Agniparikramaṇa." This finishes the "Lāja Hōma" or the offering of parched grains to the fire.

Sapta-padī gamana.

After the "Lāja Hōma" the bride again steps on the flat grinding-stone. Near the stone are drawn seven big squares with powdered rice mixed with water. The bridegroom holds the right hand of the bride and makes her step on the first square with her right foot first and chants some Mantras. She is similarly led through the seven squares. This is called the ceremony of "Seven Steps" or "Saptapadī gamana." The bride keeps standing on the seventh square when the priest comes and sprinkles some water on her head and chants some Mantras. The bridegroom then holds the right palm of the bride with his right palm in such a manner that the dorsal side of the bride's palm rests on the ventral side of the bridegroom's palm, and remaining in this position the bridegroom recites some Mantras. Then the couple take their seats to the west of the fire, keeping the bride to the right, and again performs the "Vyasta-samasta Mahā-vyāhṛti Hōma" and throws a 'Samidh' into the fire at the conclusion of the Hōma.

Uttara-vivāha.

The bridegroom then offers *ghee* to the fire six times with Mantras and every time he sprinkles some *ghee* on the head of the bride also.

Arundhatī Darśana.

After this the bridegroom makes the bride chant some Mantras which mean that the husband shows the stars "Dhruva," or the Pole-star, and "Arundhatī," or a star in the constellation of the Pleiades.

Following this, the bridegroom looks at the bride and chants some Mantras which mean—"Ōm, the sky is firm, the earth is firm, the whole universe is firm, so be thou firm as rock in the family of thy husband."[1]

After this the bride offers her salutations to the bridegroom with Mantras and the bridegroom, in return, blesses the wife. Then the priest dips a mango twig containing leaves into the pitcher and sprinkles water over the heads of the couple and chants some Mantras. The bridegroom then once more performs the "Vyasta-samasta Mahā-vyāhṛti Hōma."

Then the bridegroom chants some Mantras with which he implores the god Prajāpati to make their two hearts ring in unison. Then he proceeds on to say that their hearts have been exchanged.[2] This is followed by the chanting of some Mantras which mean that the husband is making the wife ride on a chariot; then, as if he is making her sit on an ox-hide. This being done a baby is placed on the lap of the bride and a fruit is given to him for eating.

After this the bridegroom performs two other Hōmas, *viz.*, "Dhṛti Hōma" and "Chaturthī Hōma." In the former he offers eight oblations of *ghee* to the fire, and in the latter, he offers twenty similar oblations with Mantras. Then the bridegroom and the bride get up and stand to the north of the fire. This time the bride stands to the left of the bridegroom. After they have taken their stand to the north of the fire, the bridegroom sprinkles some water mixed with *ghee* on the head of the bride. Then he takes some vermilion with his

1 "Oṃ dhruvā dyaus dhruvā pṛthivī dhruvam viśvamidaṃ jagat, dhruvāsas parvatā imé dhruvā strī patikulē iyaṃ." Purohit Darpan, p. 435.

2 "Oṃ yadetad hṛdayaṃ tava tadastu hṛdayaṃ mama, yadidaṃ hṛdayaṃ mama tadastu hṛdayaṃ tava." *Ibid*, p. 435.

ring and draws a line with the vermilion along the partition of the bride's hair (*sīmanta*), and places a veil over her head. Then he takes a 'Samidh' half a cubit in length, dips it in *ghee*, and throws it into the fire. This finishes the "Kuśaṇḍikā." The other rituals that follow it are not Śāstric.

The couple, after saluting god Nārāyaṇa and all the elders, are then led into the bridal chamber. This is also done after the "Sampradāna" in case, the "Kuśaṇḍikā" cannot be performed that very night. Ladies of the house and those of the neighbourhood receive the couple into the bridal chamber. Generally no adult males are allowed to stay in that room. The ladies, especially the sisters and cousins (or classificatory sisters), sisters-in-law (or the classificatory brothers' wives), and those who belong to the grandmother's generation (*i.e.*, the classificatory mothers of the bride's mother or father) of the bride, take an active part in cutting all sorts of practical jokes with the bride and the bridegroom. They spend the night in mirth and merriment. The custom is that the couple must keep awake on that night, there must be lamps burning in that room, and that they must not be left to themselves. In the morning the bridegroom performs the "Kuśaṇḍikā" if it was not performed at night. Either after performing the "Kuśaṇḍikā," or, if it had been performed at night, in the morning the bride and the bridegroom take their bath and are then led to the plantain trees under which the "Sampradāna" took place. The priest carries a pitcher filled with water and he is followed by the bridegroom and the bride. They go round the plantain trees seven times, and, as they go round, the priest pours some water at the roots of each of the trees. This is known as the "Next-day-marriage," or "Vasi Vivāha." After this the bridegroom and his party are treated with refreshments, and if they intend to stay for the noon, they are sumptuously fed.

It should be noted here that in Western Bengal there is a custom that the bride's sisters, at the time of the bridegroom's coming out of the bridal chamber, block the door and do not

allow the bridegroom to come out unless he pays them something or promises to do so. This is known as " Dōr dharani " in that area. It seems to be a relic of the ancient custom of sororate. But it is very curious to note that no such custom prevails in Mymensingh.

At the time of leaving the bride's house the bridegroom salutes all the elders there and pays as " Praṇāmī " something to each of them according to their status. He also pays something to the servants, barber, washerman, and for the welfare of the society which is known as " Samāj Dakṣiṇā." No amount is fixed for these payments ; the bridegroom pays according to his means. After all these the bridegroom performs the " Śubha Yātrā " described before, with the bride sitting to his left. Then they start for the bridegroom's house amidst music and 'Ulu' sounds. The mother of the bride gives some rice, spices and salt in a bundle to the bride because it is customary that the bride must not take rice at her husband's place until the ceremony of "Pāka-sparśa," which I shall describe later, is over. All the articles which were sent at the time of " Tél-kāpar " are returned with the bridegroom's party. Only the cup containing " Gandha tail," a few pieces of cloth, and edible articles are retained.

Badhū-varaṇa.

As soon as the couple reach the bridegroom's house, they remain outside till five married ladies come out to welcome them home. One of the ladies carries a fan, the second carries a pitcher filled with water, the third carries some raw fish, the fourth carries a vermilion-box containing vermilion, and the fifth one carries some parched grains in a winnowing-fan. They all make 'Ulu' sounds and hand the fish and the vermilion-box over to the bride. As they move for getting into the house, the lady carrying the fan fans the bride, the lady carrying the pitcher sprinkles water on the way, and the lady carrying parched grains scatters them in front of the couple. In the courtyard of the bridegroom's house is drawn an " Ālpanā " on which a thin mat is spread. At one

end of the mat are placed five burning earthen lamps, and at the other end are placed five pitchers containing water and mango twigs. In the centre of the mat are placed seven betel-leaves, seven betel-nuts, seven cowries, and seven handfuls of rice, all covered by a piece of cloth. The bride and the bridegroom take their stand on that cloth when the mother of the bridegroom comes there with two earthen lamps tied together with a red thread in such a manner that the convex sides of the lamps remain outside. She touches the forehead, shoulders, breast, navel and the knees of the bride first and then of the bridegroom with the lamps. Then she takes two pitchers and goes through a similar process. Then she takes a burning lamp, holds her left hand over the flame and touches the forehead of the bride and then that of the bridegroom with her hand heated by the flame of the lamp. She then blesses the couple by strewing some Dūrvā grass and a few grains of paddy over their heads. Then the sisters of the bridegroom put some sugar into the mouth, and some honey into the ear-holes and the eyes of the bride. Then the bride places the fish and the vermilion-box on the mat. After welcoming the couple the mother of the bridegroom sits on a wooden implement for husking placed in front of a door, and the couple then go to her and sit on her knees—the bridegroom sitting on the right knee and the bride on the left. In case of the death of the bridegroom's mother, or if she is a widow, the ceremony of Varaṇa may be performed by any of the following persons :—father's brother's wife (classificatory,) father's sister (classificatory), mother's sister (classificatory), and mother's brother's wife (classificatory). Then they are led into a room in one corner of which is kept a pitcher containing water, a rupee, and some rice. The bride attempts to put her hand into it when the brother of her husband comes and says—" Please save them for my marriage." To this the bride hands over the pitcher to him. After this the couple sit on a thin mat in the room surrounded by the ladies. In front of the couple is placed a pot of unbaked clay and its cover made of the same thing. The pot

contains some paddy and twenty-one cowries. The husband pours out and scatters the contents of the pot on the mat and the wife gathers them and replaces them into it in such a manner that there may be no sound. If the cowries strike against one another, or if there is any sound when replacing the cover, it signifies that the husband will quarrel with his wife in future. However, this is repeated seven times. After this the wife presses the palm of her husband with a stone pestle and does not release him unless he promises to give some ornaments to her. At this the husband pretends that he is angry and turns round with his back towards her. The bride thereupon pulls one end of his cloth—but no, he does not pay any heed to that. Then the bride fans her husband, brushes his feet with the tips of her hair, and offers him a betel. This subdues his wrath and he resumes his former position. This is known as "Pāshā Khelā" or "Playing with the dice." After this the elders come there and are saluted by the couple in order of precedence. They bless the couple by strewing some Dūrvā grass and a few grains of paddy over their heads and give presents to them, either in kind or in coin. Then the husband leaves the wife there and goes to the outer apartments. He must not see her during the rest of the day, nor during the night following. The night following the marriage is called the "Fatal night" or "Kāl-Rātri." At noon the bride is led into the kitchen and is shown the cooked rice, fish, and vegetables. She is not allowed to touch them. She is allowed to take all the other articles of food of her husband's place except the rice. The rice which is given to her by her mother is cooked separately for her.

Pāka-sparśa.

On the following day comes off the ceremony of "Pāka-sparśa" when the bride is allowed to touch the hearth. In the morning she takes her bath and enters the kitchen with her mother-in-law and other ladies. She is then given some turmeric which she reduces to pulp. Then she is given some vermilion mixed with mustard oil, some Dūrvā grass, a betel-leaf, and a few grains of paddy. At first

she makes five dots of vermilion with the middle finger of her right hand on each of the small props of earth placed around the oven to support a pot on fire. She then places the betel-leaf on one side of the oven and strews some Dūrvā grass and a few grains of paddy on the side of the oven and prostrates herself before it. Then she gets up and throws some salt, a few white cumin seeds, a few seeds of the fenugreek plant, and a few seeds of "Rādhni" into the oven. After this she is asked to cook some rice and one or two varieties of fish and vegetable curry. At noon, after the cooking is finished, all the varieties of cooked food are placed on a dish. Another dish containing some curd, sweetmeats, porridge, etc., in separate cups, and a tray containing cloth, oil, vermilion-box, a looking glass, a leaf of cotton wool impregnated with lac-dye, and a silver coin, are kept in one place in a room. The bride sits on a wooden stool with these things in front of her, and the bridegroom places the tray and then the dishes one by one on her joined palms. She accepts them and keeps them aside. The significance of this is that the husband takes over the charge of maintaining her during her life-time. She takes a bit of each variety of food except rice. After this the bridegroom, along with his friends and relatives, sit together to eat and the bride serves everyone of them with rice mixed with *ghee*. But no one must take the rice given to them by the bride—they keep the rice aside and are then served with food by other persons. This finishes the ceremony of "Pāka-sparśa."

Śubha-Rātri.

The following night is known as "Śubha-Rātri." An auspicious hour at night is chosen and the couple, fully decked with garments, ornaments and flower garlands, are led into the bridal chamber by the ladies. The room is well-lighted, a bed is spread in it, and a mosquito curtain hangs over the bed. In one corner of the room is kept a dish containing porridge made of milk, sugar, and rice. The bridegroom takes his seat near the dish, offers the porridge to the gods, takes a portion of it and gets

up. The bride then takes her seat there and eats a portion of the remaining porridge. She then sits near the bed and by the side of her husband. Both of them then take two betels, one each, and the husband exchanges his betel with that of the wife, and this is repeated seven times. The wife then puts the betel into the mouth of her husband who also does the same thing in return. Then the bridegroom gets up and deranges the bed, and the bride arranges it. This is done seven times. After this the bridegroom unties a corner of the mosquito curtain and the bride ties it. This is also repeated seven times. This being done, the bride and the bridegroom exchange their garlands three times. Meanwhile, those who stand in joking relation to the couple cut various practical jokes on them. The room is then vacated and the husband and the wife are left to themselves. Cohabitation may take place on that night.

Hasta-sparśa.

On the following noon the bridegroom invites all his relatives to take their meals from the hands of his wife. He has got to invite even his own father in precise words. After all the relatives have taken their seats along with the bridegroom who sits at the head, the bride serves each one of them with rice mixed with *ghee*. This time everybody partakes of the rice served by her, and she is thus accepted as a member of the society. This finishes the ceremony of "Hasta-sparśa" and the ceremony of marriage as well.

Before bringing the descriptive portion to an end, I would like to add that the various ceremonies, rituals and customs which I have tried to describe above, vary in their minor details in different villages—nay, even in different families. These variations are due to the influence of local and family customs on the ceremonies and the rituals.

I would now pass on to a comparative study with a view to find out the essential traits and various strands that go to make up this culture.

The well-known description of the eight forms of marriage in the Hindu Scriptures could be taken more as a classification of the modes of marriage by ancient Hindu sociologists. It will be found that the classification agrees more or less with the modern studies of Western anthropologists. Further, the arrangement might be looked upon as a recognition of more and more developed types from earlier and cruder forms. Thus, last in the scale would come the Paiśācha form where the bride is carried off stealthily and is ravished before marriage. Among the lower animals we find that sex-partnership is more or less instinctive, and the Paiśācha form of marriage is just an improvement on that animal instinct. Though probably extinct, it seems to be the earliest and crudest of the modes of contracting marriage. Sex-partnership alone, in a more modified form, as being accepted for marriage, is still to be found amongst primitive tribes. But in most cases, even amongst many primitive tribes, mutual choice plays a great part. Gāndharva form of marriage, or marriage[1] by mutual choice of the parties, is a well recognised form of marriage. Examples of such union are found amongst the Amer-indian tribes of North America and of South America, such as—the Lengua,[2] the Matacos,[3] the Chiriguanos of Bolivia,[4] the Zaparo of Ecuador,[5] the Macusis,[6] the Uaupes,[7] the Bororo of Central Brazil,[8] and the Boro and Witoto of the North-West Amazons[9] in the South, and the Tarahumare of Mexico,[10] the Moqui,[11] the

Paiśācha form or marriage by ravishment.

Gāndharva form or marriage by mutual choice.

1 See also Mrs. Stevenson, *Rites of the Twice-Born*, N. M. Penzer—Tawney's translation of *Ocean of Stories*, Vol. I, pp. 87-88.

2 Grubb, *An Unknown People*, p. 214.

3 Westermarck, *History of Human Marriage*, II, p. 287.

4 Westermarck, *op. cit.*, p. 287.

5 Simpson, *Travels in the Wilds of Equador*, p. 173

6 Westermarck, *op. cit.*, p. 288.

7 *Idem, ibid*, p. 288.

8 *Idem, ibid*, p. 288.

9 Whiffen, *North-West Amazons*, p. 164.

10 Lumholtz, *Unknown Mexico*, I, 266.

11 Voth, '*Orabi Marriage Customs*' in *American Anthropologist*, N. S., ii, 238 sq.

Pueblo,[1] the Natchez,[2] the Alibanu and the Illinois,[3] the Shawnee,[4] the Omaha,[5] the Kiowa,[6] the Hidatsa of Dakota,[7] the Apaches,[8] and the Lilooet[9] of North America ; among the Yukaghirs[10] and the Tungus[11] of Siberia; among the Li of Hainan; in Formosa,[12] and among the Ainus of Japan.[13] In India we find examples of Gāndharva marriage in Nepal,[14] among the Bhotiyas of Almora;[15] among the Kols, Santals and the Abors,[16] the Bhuiyas,[17] and the Saorias[18] of Central India ; among the Todas,[19] the Yanadis of Nellore,[20] the Paliyans, a nomadic tribe of the Palni Hills,[21] the Badagas and the Kolas of the Nilgiri Hills[22] of South India; among the Nagas of Manipur;[23] the Angami Nagas[24] and the Mikirs[25] of Assam; among the Shans of Indo-Burma ;[26] among the Lisu of the Burma-China

1 Bancroft, *Native Races of the Pacific States of North America*, I, 549 n., 206.
2 Westermarck, *op. cit.*, p. 289.
3 Bossu, *Travels through Louisiana*, 1, 128, 232.
4 Ashe, *Travels in America*, p. 249.
5 Westermarck, *op. cit.*, p. 289.
6 Hodge, *Handbook of Indians of Canada*, I, 809.
7 Matthews, *Ethnography and Philosophy of the Hidasta Indians*, p. 52.
8 Cremony, *Life among the Apaches*, p. 246.
9 Westermarck, *op. cit.*, p. 291.
10 Jochelson, *Yukaghir*, p. 89 sq.
11 Miss Czaplicka, *Aboriginal Siberia*, p. 105.
12 Westermarck, *op. cit.*, p. 298.
13 Batchelor, *Ainu and their Folk-lore*, p. 223 sq.
14 Waddell, *Among the Himalayas*, p. 311.
15 Sherring, 'Notes on the Bhotiyas of Almora and British Gharwal' in *Mem. As. Soc. Bengal*, I, 106.
16 Rowney, *Wild Tribes of India*, pp. 67, 76, 159.
17 Macmillan, 'Bhuiyas' in *Calcutta Review*, CIII, 175.
18 Bainbridge, 'Saorias of the Rajmahal Hills' in *Mem. As. Soc. Bengal*, II, 56.
19 Rivers, *Todas*, p. 504.
20 Westermarck, *op. cit.*, p. 293.
21 Dahmen, 'Paliyans' in *Anthropos*, III, 27.
22 Hough, *Letters on the Climate, Inhabitants, etc., of the Neilgherries*, p. 91.
23 Hodson, *Naga Tribes of Manipur*, p. 87.
24 Westermarck, *op. cit.*, p. 294.
25 Stack, *Mikirs*, p. 18.
26 Anderson, *Mandalay to Momien*, p. 301.

frontier;[1] among the Koreans of Tavoy[2] and the Sakais of Malay Peninsula.[3] In Malaysia this form occurs among the Mantra of Sungei Ujong[4] in the Straits Settlements; among the Orang Akit, the Orang Mamuq, and the Rindan Kubu of Sumatra;[5] among the Hill Dyaks,[6] the Sea Dyaks,[7] and the Punans[8] of Borneo; among the Minahassers of Celebes.[9] In Melanesia too we find that marriage by mutual choice obtains among the inhabitants of Mortlock Island,[10] Marshall Island,[11] and New Guinea.[12] The distribution of this form of marriage extends as far as Polynesia among the inhabitants of Tonga Island,[13] Society Islands,[14] and among the Maoris of New Zealand.[15] Coming to Africa, we find examples of this form of marriage among some peoples of Madagascar;[16] among the Hova, the Betsileo, the Bushmen,[17] the Hottentots,[18] the Wakonde and the Batamba,[19] the Bakene[20] the Basoga,[21] the Madi,[22] and the Dinka.[23]

1 Rose and Brown, in *Memoirs As. Soc. Bengal*, III, 263.
2 Westermarck, *op. cit.*, p. 295.
3 *Ibid*, p. 295.
4 Knocker, 'Aborigines of Sungei Ujong' in *J.R.A.I.*, xxxvii, 293.
5 Westermarck, *op. cit.*, p. 296.
6 Hornaday, *Two Years in the Jungle*, p. 455.
7 Gomes, *Seventeen Years among the Sea Dyaks of Borneo*, 122 sq.
8 Hose and McDougall, *Pagan Tribes of Borneo*, II, 183.
9 Hickson, *A Naturalist in North Celebes*, p. 272.
10 Westermarck, *op. cit.*, p. 298.
11 Westermarck, *op. cit.*, p. 298.
12 *Ibid*, p. 298.
13 Mariner, *Account of the Natives of the Tonga Islands*, II, p. 167.
14 Westermarck, *op. cit.*, p 300.
15 *Ibid*, p. 300.
16 *Ibid*, p. 302.
17 Theal, *Yellow and Dark-skinned People of Africa South of the Zambesi*, p. 47.
18 Le Valliant, *Travels from the Cape of Good Hope, into the Interor Parts of Africa*, II, 67.
19 Westermarck, *op. cit.*, pp. 304-305.
20 Roscoe, *Northern Bantu*, p. 149.
21 *Idem*, *Ibid*, p. 211 sqq.
22 Westermarck, *op. cit.*, p. 306.
23 O'Sullivan, 'Dinka Laws and Customs' in *J.R.A.I.*, XL, 180.

Besides these, a great number of marriages in the civilised nations of modern Europe and America are the outcomes of mutual settlement between the parties. In ancient India Kshatriyas chose their partners by courtship, and they enjoyed a great amount of freedom in choosing their mates, which, more or less, partook of the nature of Gāndharva marriage.

Rākṣasa marriage or Marriage by Capture.

A still higher order of marriage was the Rākṣasa which is almost identical with marriage by capture. This custom has a very wide distribution in the present-day primitive world. Examples of marriage by capture are found among many of the Red Indian tribes of South America, *e.g.*, the Yahgāns and the Onas of Tierra del Fuego,[1] many of the tribes of Brazil[2] and Ecuador,[3] the Jibaros,[4] the Zaparos,[5] the Caribs,[6] the Comanche,[7] and the Luiseno.[8] We find the custom of marriage by capture among the Samoyeds,[9] the Votyaks and the Ostyaks,[10] the Voguls, the Cheremiss, the Mordvin, and among the Tartars of Crimea as an alternative form where the bridegroom is not in a position to pay the fixed bride-price. Among the Kalmucks it is often found that the suitor abducts the unwilling girl and compels her to marry him.[11] Bride-capture is very common among the Purangs of Tibet ;[12] among the Bhotiyas of Almora,[13] among

1 Westermarck, *op. cit.*, p. 240.
2 *Ibid*, p. 240.
3 *Ibid*, p. 240.
4 Rivet, ' Les Indiens Jibaros ' in *L'Anthropologie*, XVIII, 605, 615.
5 Simson, *Travels in the Wilds of Ecuador*, p. 172 sqq.
6 Im Thurn, *Among the Indians of Guiana*, p. 186.
7 Westermarck, *op. cit.*, p. 241.
8 *Ibid*, p. 241.
9 *Ibid*, p. 242.
10 Westermarck, *op. cit.*, p. 242.
11 *Ibid*, p. 242 et. seq.
12 Das, S. C., ' Marriage Customs of Tibet ' in *Jour. Asiatic Soc. Bengal*, Vol. LXII, Pt. III, 8 sq.
13 Sherring, *op. cit.*, I. 108.

some of the inhabitants of Bastar[1] and the Kolams of Wardha[2] in the Central Provinces of India; among the Malayalis of North Arcot,[3] the Mullakurumbers of Wynad[4] and the Gonds of the Eastern Ghats[5] in South India; among some of the aboriginal tribes of Chota Nagpur;[6] among the Bhuiyas of Orissa;[7] the Hos of Bengal,[8] the Morans of Assam;[9] among the peoples in various parts of the Malay Archipelago, *e.g.*, Bali, Kei, etc.;[10] among the inhabitants of the Babar Archipelago, among the Negritos or Negros in the Philippines, in the Bismarck Archipelago especially in the Admiralty Islands, in Bougainville, and in Buin Islands;[11] in Erromanga;[12] on the larger islands of the Fiji Group;[13] among the Maoris of New Zealand;[14] among the Tasmanians,[15] and in all parts of Australia;[16] among the Sakalava of Madagascar, among the Bushmen,[17] the Hottentots,[18] the Fingu,[19] the Ababua, Babati and Baieu tribes,[20] among the forest tribes of the North-eastern Mongala Basin,[21] among the Ngoni,[22]

1 Westermarck, *op. cit.*, 244.
2 Russell, *Tribes and Castes of the Central Province of India*, I, 147.
3 Cox, *Madras District Manuals* : North Arcot, I, 213.
4 Nair, Gopalan, *Wynad*, p. 69.
5 Rao, H., 'Gonds of the Eastern Ghauts,' in *Anthropos*, v. 795.
6 Westermarck, *op. cit.*, p. 245.
7 O'Malley, *Census of India, 1911*, Vol. V. (Bengal, Bihar and Orissa and Sikkim) Report, p. 315.
8 O'Malley, *op. cit.*, p. 315.
9 Endle, *Kacharis*, p. 89.
10 Westermarck, *op. cit.*, p. 245.
11 *Ibid*, p. 246.
12 Robertson, *Erromanga*, pp. 392, 396.
13 Williams and Calvert, *Fiji and the Fijians*, p. 149.
14 Polack, *Manners and Customs of the New Zealanders*, I, 153.
15 Westermarck, *op. cit.*, p. 247.
16 Taplin, *Folk-Lore, Manners, Customs and Languages of the South Australian Aborigines*, p. 93.
Hodgson, *Reminiscences of Australia*, p. 243.
17 Westermarck, *op. cit.*, p. 249.
18 Theal, *op. cit.*, p. 85.
19 Westermarck, *op. cit.*, p. 249.
20 Johnston, *George Grenfell and the Congo*, II, 676, 674.
21 Westermarck, *op. cit.*, p. 249.
22 Elmslie, *Among the Wild Ngoni*, p. 57.

the Bukobans,[1] the Bantu Kavirondo,[2] the Ewhe-speaking tribes of the Slave Coast,[3] in Africa.

Besides the primitive world, traditions of obtaining wife by abduction, or some rites which may be explained as the relics of the old practice of bride-capture in the face of armed opposition, are found among many of the civilised peoples of to-day. Rākṣasa form of marriage which means "the forcible abduction of a maiden from her home, while she cries out and weeps, after her kinsmen have been slain or wounded, and their houses broken open,"[4] was one of the eight legal modes of marriage according to the 'Laws of Manu.' This mode of marriage was prescribed for the Kshatriyas or the Warrior caste. The tradition of bride-capture of the ancient Greeks has been handed down from generation to generation and we occasionally hear of bride-capture in Greece even to this day.[5] "Among the Teutonic, Slavonic, Romance and other peoples of Europe it is a common custom to barricade or stop the bridal procession on its way; and this custom has been regarded by several writers as a survival of marriage by capture.... The barring of the wedding procession with a cord is also found in Gloucestershire and in Wales."[6] "The Roman bride fled to the lap of her mother, and was carried off by force by the bridegroom and his friends. The Spartan bridegroom carried off the bride with feigned violence."[7] The Sikhs were formerly accustomed to obtain wives by forcibly capturing girls.[8] The Cossacks of Little Russia and Ukrania practised this till the 17th century,[9] and in High Albania the custom of bride-capture obtains even to-day.[10]

1 Westermarck, *op. cit.*, p. 250.
2 Hobley, *Eastern Uganda*, p. 18.
3 Ellis, *Ewe-speaking People of the Slave Coast*, p. 212.
4 Laws of Manu, II, 33.26.
5 Dionysius of Halicarnassus, and Sakellarios referred to in Westermarck, *op. cit.*, p. 251.
6 Westermarck, *op. cit.*, p. 260.
7 *Ibid*, p. 269.
8 Russell, *op. cit.* I, 321.
9 Kovalewsky, *Modern Customs and Ancient Laws of Russia*, 24.
10 Durham, 'High Albania and its Customs' in *J.R.A.I.*, XL, 459.

Asura form or Marriage by Consideration.

But perhaps the more widely diffused and more recognised form of marriage was Āsura or marriage by consideration offered to the father or some other relative of the bride. This consideration may take any one of the following three forms :—(*a*) consideration in the form of exchange of bride for bride which is known as marriage by exchange; (*b*) consideration in the form of service, that is, the suitor may offer his services to the father of the bride for a period, this may be called marriage by service; and (*c*) consideration in the form of property of some kind or other—this may be dubbed as marriage by purchase, or, to be more precise, marriage by bride-price.

(*a*) Marriage by Exchange.

Examples of marriage by exchange are found in Australia;[1] in the western islands of the Torres Straits;[2] among the Kiwai Papuans;[3] in New Guinea;[4] in Erromanga of New Hebrides;[5] in the Buin district of Bougainville;[6] among the Sumatrans;[7] among the Buryats;[8] among the Tungus;[9] among the wild tribes of the Afghan frontier;[10] in some tribes of Beluchistan;[11] in the Jammu Province of Kashmir;[12] among the Bhotiyas of Almora and British Gharwal;[13] among the lower castes of the North-Western Provinces;[14] among the Jats;[15] among the Madigas and

1 Curr, *The Australian Race*, i, 107.
2 Malinowski, *The Family among the Australian Aborigines*, 36.
3 Westermarck, *op. cit.*, p. 355.
4 *Ibid*, p. 355.
5 Robertson, *Erromanga*, p. 396.
6 Westermarck, *op. cit.*, p. 356.
7 Marsden, *History of Sumatra*, p. 259.
8 Westermarck, *op. cit.*, p. 356.
9 Miss Czaplicka, *Aboriginal Siberia*, p. 105.
10 Pennell, *Among the Wild Tribes of the Afghan Frontier*, p. 193.
11 Bray, *Census of India*, 1911, Vol. IV. (Beluchistan) Report, p. 101.
12 Matin-uz-Zaman Khan, *Census of India*, 1911, Vol. XX (Kashmir) Report, p. 140.
13 Sherring, *op. cit.*, in *Memoria, Asiatic Soc. Bengal*, I, 98.
14 Crooke, *Tribes and Castes of the North Western Provinces and Oudh*, I, p. . cciv.
15 Ibbetson, quoted *ibid*, I, ccrv.

the Idigas of Mysore;[1] among the Santals of Bengal;[2] among the Peasantry of Palestine;[3] and in Southern Guinea.[4]

(*b*) Marriage by Service.

Marriage by service has a wider distribution than any of the other two forms of Āsura marriage. Examples of marriage by service are found among many of the North and South American Red Indians;[5] among some of the Eskimos;[6] among various Siberian peoples;[7] among the Ainus of Japan;[8] amongst a large number of aboriginal tribes of China,[9] Indo-China,[10] and in India among the Nagas,[11] the Lushai Kukis and the Turungs,[12] the Limbus and the Tipperahs,[13] the Mikirs,[14] the Mrus,[15] the Kacharis, the Rabhas, the Hajongs, and the Deoris,[16] the Santals, the Mundas, and the Oraons,[17] the Lepchas and the Kirantis of the Central Himalayas,[18] in Rajputana and in Ajmer-Merwara,[19] the Bodos and the Dhimals,[20] the Gonds, the Korkus, the Khonds, the Mahars and the Marars of Balaghat and Bhandara;[21] among

1 Westermarck, *op. cit.*, p. 357.
2 *Ibid*, p. 358.
3 Wilson, *Peasant Life in the Holy Land*, p. 110.
4 *Idem*, *Western Africa*, 266 sq.
5 Westermarck, *op. cit.*, p. 360.
6 *Ibid*, p. 360.
7 Jochelson, *Yukaghirs*, p. 87 sq.; *Idem*, *Koriak*, p. 740.
Bogoras, *Chukchee*, pp. 579, 586, 587, 609.
8 Westermarck, *op. cit.*, p. 361.
Miss Czaplicka, *op. cit.*, p. 102.
9 Gray, *China*, II, 304.
10 Westermarck, *op. cit.*, p. 361.
11 Hodson, *Naga Tribes of Manipur*, p. 91.
12 Gait, *Census of India*, 1891 (Assam), Report, pp. 251, 284.
13 Dalton, *Descriptive Ethnology of Bengal*, pp. 104, 110.
14 Westermarck, *op. cit.*, p. 361, n. 5.
15 Hutchinson, *Account of the Chittagong Hill Tracts*, p. 167.
16 Endle, *Kacharies*, pp. 44, 45, 85, 86, 95.
17 O'Malley, *Census of India*, 1911, Vol. V, Report, p. 315.
18 Westermarck, *op. cit.*, p. 361, n. 5.
19 Kealy, *Census of India*, 1911, Vol. XXII, Report, p. 165.
20 Westermarck, *op. cit.*, p. 361, n. 5.
21 Russell, *Tribes and Castes of the Central Provinces of India*, III, 80, 558, 467; IV, 133, 134, 166.

the Malayalis [1] and the Mandan Chettis [2] of South India ; among the inhabitants of Ponape of the Caroline Islands; [3] in New Britain; [4] among several African peoples, *e.g.*, the Bushmen,[5] the Hottentot,[6] the Makaranga,[7] the Banyai of the Zambesi River [8] the Tumbuka of British Central Africa,[9] the Wandorobo [10] the Zangas of French Sudan, the Asaba Ibo, and the Susu.[11]

Westermarck is of opinion that the practice of serving for a period for a wife is due to the unwillingness of a father to give away his daughter for nothing—this is proved by the fact that often service is a substitute for the bride-price.[12] Besides this we think that it has another meaning—during the period of service the suitor is put to various tests and by going through them he has to prove his mettle. This has been very strongly emphasised by Dr. Jochelson. With reference to the Koryaks he states—"A serving bridegroom is not an ordinary workman. The principal thought is not his usefulness, but the hard and humiliating trials to which he is subjected. The bridegroom is given a poor bed, he is ill-fed, he is not allowed to sleep late, he is sent on exhausting errands. As a herdsman he must pass his nights without sleep, while the proprietor of the herd and the bride's brothers are resting. In a word, during his term of service, his endurance, patience and meekness, his adroitness as a hunter, and his zeal and frugality as a herdsman, are tested. The bride's father gives his assent to the marriage only after the bridegroom has stood the probation well." [13]

1 Westermarck, *op. cit.*, p. 361, n. 5.
2 Thurston, *Castes and Tribes of South India*, IV, 445
3 Christian, *Caroline Islands*, p. 74.
4 Westermarck, *op. cit.*, p. 362.
5 Chapman, *Travels in the Interior of South Africa*, I, 259.
6 Westermarck, *op. cit.*, p. 362, n. 4.
7 Theal, *op. cit.*, p. 220.
8 Westermarck, *op. cit.*, p. 362, n. 4.
9 Fraser, *Winning a Primitive People*, pp. 153, 155.
10 Merker, *Dei Masai*, p. 232.
11 Westermarck, *op. cit.*, p. 362, n. 4.
12 *Ibid*, p. 373.
13 Jochelson, *Koryak*, p. 740.

(c) Marriage by Bride-price.

The third variety of marriage by consideration, that is, marriage by bride-price in the form of some articles of use, or, in the form of money, or, both, has been reported to be found among the Veddas of Ceylon and the Sakais of Perak,[1] among some of the Australian tribes,[2] among the Pygmies of Central Africa,[3] the Namib Bushmen and other African peoples; among the Angmagsaliks on the east coast of Greenland; among the Eskimos of Ungava district of the Hudson Bay Territory,[4] among the Red Indians of North America;[5] the South American Red Indians ; the Ugro-Finnic and Turko-Tartar peoples of the former Russian Empire, the Votyaks, the Mordvin, the Cheremiss, the Ostyaks and the Samoyeds; [6] among some of the tribes of India, *e.g.*, the Lushais ; [7] the Morans of Assam,[8] the Kisans of the Central Provinces,[9] the Mishmis,[10] and the Kunnuvans of South India; [11] among the Battas of Sumatra;[12] among the inhabitants of Tenimber; the Subanu of Mindanao; the peoples of the British New Guinea, Dutch New Guinea, Bismarck Archipelago,[13] and Florida in the Solomon Group.[14]

Thus we recognise the primitive forms of marriage in the Āsura, the Rākṣasa, the Gāndharva, and in the Paiśācha.

1 Westermarck, *op. cit.*, p. 375.
2 Malinowski, *op. cit.*, p. 51.
Howitt, *Native Tribes of South-East Australia*, p. 220.
3 Johnston, *op. cit.*, ii, 674.
4 Westermarck, *op. cit.*, p. 376.
5 Harrington, ' Preliminary Sketch of Lenape Culture ' in *American Anthropologist*, N. S., XV, 215.
Stephen, ' Navajo ' in *American Anthropologist*, N. S., VI, 356.
6 Westermarck, *op. cit.*, pp. 378, 379.
7 Gait, *Census of India*, 1911, Vol. I (India), Report, p. 257.
8 Endle, *Kacharis*, p. 89.
9 Dalton, *Descriptive Ethnology of Bengal*, p. 132.
10 Westermarck, *op. cit.*, p. 381.
11 Dahmen, ' Kunnuvans or Mannadis ' in *Anthropos*, V. 327.
12 Westermack, *op. cit.*, p. 381.
13 *Ibid*, p. 382.
14 Codrington, *Melanesians*, p. 238.

Of these forms it is only in the first that the previous consent of the guardians is necessary. The four higher forms of marriage as described by the Hindu sociologists would thus be recognised as non-primitive and requiring the consent of the guardians and some form of presents to the bride instead of bride-price. In the primitive levels also where the bride-price is the custom there is often some sort of exchange of gifts which may be looked upon as bridal presents. Thus, among the Bahima of Central Africa the bride's father returns three out of ten heads of cattle given to him as bride-price.[1] Similar is the case with the Bila-an of Mindanao where half of the gifts to the bride must be returned.[2] In his essay on the natives of Mailu, Dr. Malinowski observes that the regular exchange of gifts is one of the main features of the Papuo-Melanesian and Massim Cultures, and Prof. Seligman has also corroborated this statement.[3] The Ārṣa form is a sort of transition between the marriage by bride-price and the ceremony with presents to the bridegroom. There is much controversy as to whether the bull and the cow given by the bridegroom to the father of the bride is to be considered as 'Śulka' or consideration. If we take it to be 'Sulka' then the Ārṣa form becomes identical with the Āsura form. But scholars are of opinion that the gift is to be considered as 'Arhaṇa' or a gift in order to show respect to the bride's father. Under such a construction alone can we differentiate between the Ārṣa and the Āsura forms. The highest social type arrived at by the Hindu society, for the average householder, was the Prājāpatya. The Daiva and the Brāhma forms were developments peculiar to India where the high spiritual authority and eminence of the priesthood came to be recognised.

After consent and other preliminaries have been settled between the parties, something else is required, both from the

[1] Johnston, *Uganda Protectorate*, p. 632.
[2] Westermarck, *op. cit.*, p. 397 sq.
[3] *Ibid*, p. 399.

legal and social points of view, to make a valid union—it consists of the performance of certain rites and of the observance of certain customs in pursuance of the old-established practices. These rites may commence from the moment when the marriage is first thought of and continue up to its conclusion. "Publicity," says Miss Burne, "is everywhere the element which distinguishes a recognised marriage from an illicit connection,"[1] and elaborate rites and ceremonies give the required publicity to a union. It is also customary that the marriage ceremony must be witnessed by some persons. A marriage performed without the presence of any witness is legally invalid. Under the Mahomedan Sunni Law it is required that at least two witnesses must be present at a wedding in order to attest to the performance of the contract of marriage.[2] In the Sanskrit literatures Agni (the God of Fire) is often described as the witness. A Hindu marriage performed before fire cannot be annulled.[3] At a modern wedding of the Brahmins Indra, Varuṇa, Chandra, Yama, Brahmā, and other gods also are invoked and are requested to witness it.[4] Among the Parsees at least five persons must be summoned to witness a marriage celebration.[5] At a modern Hindu marriage the spiritual preceptor (Guru), the priest, and the barber are the principal witnesses.

We will now pass on to a rapid enumeration of the different rites constituting the complex of marriage ceremonies. Taking the data from the Radhiya Brahmins of Mymensingh, collected by personal observation, we will attempt to analyse them culturally and ethnically as far as possible. We have in all about thirty main rites as components of the marriage ceremony,

[1] Miss Burne, *Handbook of Folklore*, p. 203.

[2] Ameer Ali, *Mahomedan Law*, II, 325.

[3] Winternitz, 'On a Comparative Study of Indo-European Customs, with special reference to Marriage Customs' in *Transactions of the International Folk-Lore Congress*, 1891, p. 287.

[4] Padfield, *The Hindu at Home*, p. 102.

[5] Modi, J. J., *Marriage Customs among the Parsees.*

which, when analysed into their component traits, appear to be as follows :—

I. *Pāna-khil* or the ceremony of pinning betels. (See Appendix II, Vol. VIII —Penzer-Tawney, *The Ocean of Story*.)	1. Offering betel-leaves and betel-nuts to the household deity. 2. Twenty-seven betel-leaves and twenty-seven betel-nuts pinned together taking three of each at a time. 3. The drawing of *Ālpanā*. 4. '*Ulu*,' music, and folk-songs. 5. Mustard oil. 6. Vermilion.
II. *Barkumār Pujā* or the worship of goddess Bhagawati.	1. Offering to goddess Bhagawati. 2. Rice. 3. Paddy. 4. Plantain leaves.
III. *Gāchēr-guṇrir Vrata* or the worship of the tree-trunk. (Trees were appealed to as arbitrators and circumambulated and thought as givers of desires—and were also fertility symbols in ancient India.)	1. Worship of the tree-trunk—banyan or *sheora* tree. 2. Sweetmeats. 3. Fried rice. 4. Mustard oil. 5. Vermilion. 6. Fish. 7. Red thread. 8. Winnowing-fan. 9. Offering to Vana Durgā.
IV. *Tēl-Kāpar*, or the sending of oil and turmeric to the bride's house. (Turmeric and betel are used in Malay to avoid evil spirits—see Penzer, *op. cit.*, VIII, 242.) (Turmeric was used as a substitute for *kumkuma* (saffron) for auspiciousness and erotic significance—Peuzer, *op. cit.*, VIII, p. 18.	1. The bridegroom dips his right toe in *Gandha-tail* or scented oil. 2. Five different shades of coloured powder. 3. Clothes and garments. 4. Vermilion. 5. Vermilion-box. 6. Conch bangles. 7. Betel-leaves. 8. Betel-nuts. 9. Fish. 10. Sweetmeats. 11. *Ghee*. 12. Flour. 13. Other articles of food. 14. Utensils. 15. These are sent to the bride's house. 16. Drawing of *Ālpanā*. 17. '*Ulu*' and music.

V. *Chōre-pānī*, or the rite of stealthily fetching water.

1. Filling a new pitcher before sunrise.
2. A married lady proceeds to the tank or stream, as the case may be.
3. She cuts the water three times with a knife.
4. *Cowrie*.
5. Plantain.
6. A brass ring.
7. A myrobalan.
8. A *bahērā* fruit.
9. A piece of cloth dyed yellow with turmeric.
10. Eating of curd mixed with flattened rice by the bride and other married ladies.
11. Making the bride sit at *Adhiwāsa*.
12. *Ulu*.
13. An oil lamp.
14. A brass mirror.
15. Cylindrical top of a sprouting plantain leaf.

VI. *Sohāg-māgan*, or the begging of *Sohāg* from five houses of relatives.

1. Bride's mother and other ladies beg '*Sohāg*' from five different houses of relatives.
2. The bride's mother carries a winnowing-fan on her head.
3. A piece of new red-bordered *sari*.
4. Vermilion.
5. Turmeric.
6. *Rādhni*.
7. Betel-leaves.
8. Betel-nuts.
9. Music and *Ulu*.
10. Pitcher.
11. Drawing of *Alpanā*.
12. The housewife of each house puts mustard oil, vermilion, turmeric, and *rādhni* into the earthen pots placed on the winnowing-fan.
13. Husking of paddy with the foot.
14. Placing the winnowing-fan on the *Alpanā*.
15. A husking implement.
16. A pestle for husking.
17. A yoke.
18. A spade.
19. The father of the bride digs earth with the spade and throws it into the winnowing-fan in a particular fashion.

20. The parents husk rice with their clothes knotted together—the father takes the yoke, and the mother takes the pestle.
21. Ceremonial bath.

VII. *Nāndeemukha*, or the offering to the manes.

1. Offerings to the dead ancestors, by the father of the bride or that of the bridegroom.
2. Rice, fruits, and water.

VIII. *Subha-yātrā* or the ceremonial send-off.

1. Preparations for starting for the bride's house.
2. The bridegroom chants some *Mantras* and smells a crushed leaf of the wood-apple tree.
3. He sits just beyond the door-lintel.
4. A small pitcher containing water is placed before him.
5. A mango twig with five leaves.
6. An oil lamp.
7. Paddy.
8. *Dūrvā* grass.
9. Fish.
10. Vermilion.
11. Saluting the elders.
12. Music and *Ulu*.
13. A coronet of cork.
14. The sister of the bridegroom thrusts a broken needle into the coronet.
15. The bridegroom starts for the bride's house.

IX. *Varaṇa*, or the welcoming of the bridegroom and accepting him as the suitor.

1. The giver offers a change of garments.
2. Uncovering of the pitcher containing *Chōre-pāni*.
3. Garlanding the bridegroom.
4. Inviting him for marrying the girl.

X. *Subha-dṛṣṭi*, or the ceremonial exchange of glances.

1. The bride and the bridegroom look at each other.
2. Exchange of garlands.
3. Throwing of flowers, betel-leaves, cylindrical tops of sprouting plantain leaves.
4. Carrying the bride seven times round the marriage-altar.
5. Music and *Ulu*.

XI. *Pādya*, or the offering of water to the bridegroom.	1. Offering of water for washing of the bridegroom's feet by the person giving away the bride. 2. Pouring of water on the feet of the bridegroom.
XII. *Arghya*, or the offering of oblations to the bridegroom.	1. Offering of oblations to the bridegroom. 2. *Dūrvā* grass. 3. Sunned rice. 4. Flowers. 5. Sandal-paste. 6. Leaves of the Holy Basil. 7. *Madhuparka* (a mixture of curd, sugar, milk, and honey).
XIII. *Sampradān* and *Pāṇi-grahaṇa*, or the giving away of the bride and the joining of hands.	1. The actual giving away of the bride and the acceptance of the gift by the bridegroom. 2. The holding of the right palm of the bride with the right palm of the bridegroom. 3. The placing of five kinds of fruits over the joined palms. 4. The tying of the palms with *Kuśa* grass. 5. Offering flowers to god Prajāpati. 6. Leaves of the wood-apple tree. 7. Sandal-paste and flowers. 8. A few grains of sesamum. 9. A few leaves of the Holy Basil. 10. A copper receptacle of water.
XIV. *Gāṇṭh-chharā*, or the tying of the hems of the couple's garments in a knot.	1. The tying of one end of the towel containing five kinds of fruits to one end of the bridegroom's scarf, and the other end of it to the hem of the bride's *sārī*.
XV. *Kṣīr-bhōjan*, or the rites connected with the eating by the couple from the same plate.	1. The eating of *Pāyasa* from the same dish by the groom first and then by the bride. 2. The groom offers the *Pāyasa* to the five gods. 3. He takes a sip of water. 4. He divides the contents into four portions by drawing two cross lines with a ring. 5. The bride takes a portion of the same.
XVI. *Hōmas*, or the offerings of *ghee* to the fire.	1. Offering of *ghee* to the fire. 2. Offering of *Samidh* dipped in *ghee*.

XVII. *Asmākramaṇa*, or the treading on the stone.	1. The groom places his hand under the joined palms of the bride from behind. 2. The bride places her right foot on the curry-stone.
XVIII. *Lāja Hōma*, or the offering of parched grains to the fire.	1. Pouring of *ghee* on the joined palms of the bride by the bridegroom. 2. Pouring of parched grains into the fire by the bride—this is repeated thrice. 3. Pouring of parched grains into the fire by the bride and bridegroom together out of the winnowing-fan.
XIX. *Agni-parikramaṇa*, or the circumambulation of fire.	1. The bride and the bridegroom go round the fire three times.
XX. *Sapta-padī-gamana*, or the ceremony of seven steps.	1. The bride treads on the curry-stone with her right foot. 2. The bridegroom makes her walk seven steps through the seven squares. 3. The priest sprinkles some water over the head of the couple. 4. The bridegroom holds the right palm of the bride.
XXI. *Uttara-vivāha* ...	1. The bridegroom offers six oblations of *ghee* to the fire. 2. He sprinkles *ghee* over the head of the bride.
XXII. *Arundhatī-darśana*, or star-gazing.	1. The bridegroom shows the stars 'Dhruva' or the Pole-star, and 'Arundhatī,' a star in the constellation of the Pleiades ; this is done theoretically.
XXIII. Sitting upon an ox-hide	1. The bridegroom chants some *Mantras* which mean that he is making the bride sit on a red bull's hide.
XXIV. Placing a boy on the lap of the bride.	1. A baby boy is placed on the bride's lap. 2. He is given a fruit to hold in his hand.
XXV. *Chaturthi-hōma*, or the final offering of *ghee* to the fire.	1. Twenty oblations of *ghee* are offered to the fire by the bridegroom. 2. The couple stand to the north of the fire. 3. The bridegroom sprinkles some water and *ghee* over the head of the bride. 4. The groom takes some vermilion with his ring and marks the parting of the bride's hair with it.[1] 5. He places a veil on the bride's head.

[1] Marking with vermilion is a possible survival of an original blood-rite. (See Penzer-Tawney, *The Ocean of Story*, Vol. II, p. 23 n.

XXVI. *Vāsi-vivāha* ...
1. The couple take their baths in the following morning and are then led to the plantain trees in the four corners of the marriage altar.
2. The priest takes a pitcher filled with water.
3. He, followed by the couple, goes round the trees three times.
4. As they circumambulate, the priest pours some water at the roots of each tree.

XXVII. *Badhū Varaṇā*, or the reception of the bride.
1. Five married ladies come out to receive the couple.
2. They carry a fan, a pitcher full of water, some raw fish, a vermilion-box and some parched grains in a winnowing-fan.
3. They place the vermilion-box, and the fish in the hand of the bride.
4. One of the ladies fans the bride.
5. The other ladies sprinkle some water and parched grains on the path as the couple move for indoors.
6. In the courtyard inside the house is drawn an *Ālpanā* and a thin mat is placed over it.
7. The bride and the bridegroom stand on the mat over which a cloth is spread, and under the cloth are placed seven betel-leaves, seven betel-nuts, and seven *cowries*.
8. At one end of the mat there are five burning oil lamps, and five pitchers filled with water are placed at the other end of the mat.
9. The bridegroom's mother receives the couple with two earthen lamps tied together with red thread.
10. She touches the heads of the couple with two pitchers full of water.
11. A similar operation is repeated with two burning oil lamps.
12. The bridegroom's mother holds her palm over the flames of the lamp and touches the foreheads of the couple.
13. She blesses the couple and strews some paddy and *Dūrvā* grass over their heads.
14. The sisters of the bridegroom put some sugar into the mouth, and some honey into the ear-holes and eyes of the bride.

15. The bride places the vermilion-box and the fish on the mat.
16. The couple then sit on the lap of the bridegroom's mother who takes her seat on a husking implement.
17. Then the couple are led to a room.
18. At one corner of the room is placed a pitcher containing water, a rupee and some rice—the bride attempts to put her hand inside the pitcher when the brother of the bridegroom prevents her from doing so—the bride hands over the pitcher to him.
19. The couple play with *cowries* and paddy.
20. The bride presses the bridegroom's hand with a pestle,
21. The bridegroom pretends to be angry.
22. The bride begs him to appease his wrath and tries to please him by brushing his feet with the ends of her hair and by offering betel to him.
23. The couple are then blessed by the elders in order of seniority and preference.
24. At noon the bride is led into and is shown the kitchen.
25. The bridegroom must not see the bride in course of the rest of the day or the night following.

We should also mention in this connection thecustom of '*Stree-āchār*', or the the rites by ladies only, for the sake of comparison. This is one of the very important rites found in Western Bengal only, and it immediately follows the rite known as '*Śubha-dṛṣṭi.*' We can analyse this rite in a similar manner and we find that it consists of the following eight component sub-traits :—

Stree-āchār ... 1. Seven married ladies go round the couple with burning torches and are led by the mother of the bride.
2. The bride's mother carries a winnowing-fan on her head and it contains twenty-one small burning earthen lamps.
3. As the ladies go round the couple they sprinkle water, blow conch-shells, and make *Ulu* sounds.

4. At the completion of the seventh round the bride's mother throws the lamps behind the bridegroom by passing them over his head.
5. The bride's mother then stands on the winnowing fan and touches the forehead of the bridegroom with water, paddy, *Dūrvā* grass, betel-leaves, betel-nuts, seeds of white mustard, curd, white sandal-paste, vermilion, a looking-glass, a comb, a bit of clay from the bed of the River Ganges, a yak's tail, shells, a cluster of plantains, and certain other odds and ends.
6. The bridegroom's height is then measured with a thin thread which the bride's mother eats in a bit of plantain.
7. The bride's mother then places a weaver's shuttle between the folded hands of the bridegroom and ties them with thread, and calls upon him, now that he has been bound hand and foot, to bleat like a sheep.
8. She, finally, touches his breast with a padlock and turns the key.

XXVIII. *Pāka-sparśa*, or the ceremony of acceptance of the bride as a member of the household.

1. The bride takes her bath in the morning and then she is led into the kitchen.
2. She reduces some turmeric into pulp.
3. She marks the oven with vermilion mixed with oil.
4. She then throws some *Dūrvā* grass, a few grains of paddy at the oven and prostrates herself before it.
5. She then throws some salt, a few cumin seeds, a few fenugreek seeds, and some *radhni* into the oven.
6. She then cooks some rice and one or two varieties of dishes.
7. At noon the bridegroom offers her a piece of new cloth and a dish containing cooked rice and cooked dishes.
8. The bride serves the relatives of the bridegroom and the bridegroom himself with rice mixed with *ghee*, but they do not partake of it.
9. The articles offered at the time of '*Bhāt kāpar*' (7) are—curd, sweet-meats, *Pāyasa*, a cloth, mustard oil, vermilion, a vermilion-box, a looking glass, a leaf of cotton wool impregnated with lac dye, and a silver coin.

XXIX. *Subha-rātri*, or the rites preceding consummation of marriage.	1. Eating from the same dish—the husband first and then the wife. 2 Exchange of betels. 3. Deranging of the bed by the husband. 4. Arranging of the same by the wife. 5. The husband unties one corner of the mosquito curtain, and the wife ties it—this rite and the previous one are repeated seven times. 6. Exchange of garlands.
XXX. *Hasta-sparśa*, or the final rite.	1. The wife serves the relatives of her husband and the husband himself with rice mixed with *ghee* at the following noon—this time everybody eats the food served by her.

It would be easy at the outset to pick up the Indo-European elements as those which are mentioned in the Hindu scriptures and which are also found amongst the European branch of the Aryan stock, and also to have a geographical area of distribution.

Indo-European traits:—(a) *Pāṇigrahaṇa*.

"The joining of hands, or the bridegroom's taking the bride by the hand," says Westermarck, "has of old been one of the most important marriage ceremonies among all Indo-European peoples."[1] In the Gṛihya Sūtras,[2] as well as in the Vedas[3] wherein the husband is described as "Hastagrāha" or the "Hand-taker," we find reference of this custom. Moreover, '*Pāṇigrahaṇa*' is a common name for 'wedding' in Sanskrit. This rite symbolises the union of the bride and the bridegroom and is intended to strengthen the marriage tie. The custom of the clasping of hands is also found among many other peoples, *e.g.*, among the Wabondei of Africa;[4] among the Abyssinians where the parties crook their little fingers;[5] among the Nufors of New Guinea;[6]

[1] Westermarck, *op. cit.*, p. 439.
[2] *Grihya Sutras*, San., I, 13, 2; Asv., I, 7, 3 and 5.
[3] Winternitz, *op. cit.*, p. 282.
[4] Westermarck, *op. cit.*, p. 439.
[5] Parkyns, *Life in Abyssinia*, II, 54.
[6] Westermarck, *op. cit.*, p. 439.

among the Benua of Malacca; [1] among the Gonds of the Eastern Ghats in South India; [2] among the Kadupattans of Cochin in South India ; [3] in Burma ; [4] in Rome [5] and in Germany.[6] But among the following peoples besides joining the palms of the bride and the bridegroom they tie their palms together as well :—in Poland, Bulgaria and among the Saxonians of Transylvania ; [7] among several castes of South India, Bengal and Lahore; [8] among the Parsees ; [9] among the Sinhalese ; [10] and among the Ahoms of Assam.[11]

Gānṭh-chharā.

As a more primitive substratum of this rite, most probably, was the rite known as *Gānṭh-chharā* or the ceremony of tying the upper garments of the couple, found more amongst the primitive peoples. Thus, among the Veddas a thin cord is tied round the waists of the bride and the bridegroom.[12] In Burma, a ribbon is stretched round them.[13] Among the Chakmas of Chittagong "the bride and the bridegroom are made to sit together, and two of their relations, a man and a woman, with the consent of all present, tie the couple together with a white cloth."[14] Among the Hindus of South India the priest tie together the ends of the upper garments of the couple.[15] The rite known as 'Cheda-chedi' among the Parsees also bears this trait.[16] Among the

1 Newbold, *Account of the British Settlements in the Straits of Malacca*, II, 470.
2 Rao, H., 'Gonds of the Eastern Ghauts' in *Anthropos*, V, 794.
3 Iyer, L. K. A., *Cochin Tribes and Castes*, Vol. II
4 Shway Yoe, *The Burman*, p. 57.
5 Westermarck, *op. cit.*, p. 440.
6 Winternitz, *op. cit.*, p. 282.
7 Westermarck, *op. cit.*, p. 440.
8 Winternitz, *op. cit.*, p. 283.
9 Modi, J. J., *op. cit.*
10 Percival, *An Account of the Island of Ceylon*, p. 180.
11 Parry, *The Lakhers*.
12 Seligman, *Veddas*, p. 97.
13 Fielding Hall, *The Soul of a People*, p. 187 sq.
14 Hutchinson, *Account of the Chittagong Hill Tracts*, p. 97.
15 Padfield, *The Hindu at Home*, p. 104 sq.
16 Modi, J. J., *Marriage Customs among the Parsees*.

Moriori of the Chatham Islands a thin rope of plaited grass is placed round the necks of the couple.[1] In China, after the couple have sipped some wine and changed glasses, the hair of the bridegroom is fastened to that of the bride.[2] And among the Southern Gallas of Africa each person present at the wedding ties a knot in the fringe of the bridegroom's toga and in the fringe of the bride's garments ; these knots are never undone.[3]

(b) Eating together from the same dish.

An extremely frequent and widespread marriage rite, which is definitely Indo-European as well as primitive, is the eating together of the bride and the bridegroom. It is the main incident of the rite called ' Kṣīr bhōjan ' in Mymensingh. It has been found to occur in some form or other among the Navaho and the Pawnee of America;[4] in Fiji;[5] in Mangaia (Harvey Islands) ;[6] and the Lepers' Island (New Hebrides)[7] in the Pacific ; in the Malay Archipelago;[8] in the Malay Peninsula ;[9] among the Shans[10] and the Burmese[11] in Burma ; among the Miris,[12] the Magh tribes of Chittagong,[13] the Santals,[14] the Irulans of Gingee Hills,[15] the hill tribes of Central Indian Hills,[16] the Chakmas,[17] the Gonds, and the Korkus,[18] and among

1 Tregear, *The Maori Race*, p. 580.
2 Leong and Tao, *Village and Town Life in China*, p. 107.
3 Wakefield, ' Marriage Customs of the Southern Gallas' in *Folk-Lore*, XVIII, 321.
4 Grinnell, *Story of the Indian*, p. 46.
5 Williams and Calverts, *Fiji and Fijians*, p. 146.
6 Westermarck, *op. cit.*, p. 449.
7 Codrington, *Melanesians*, p. 242.
8 Crawley, *The Mystic Rose*, p. 379 sqq.
9 Skeat and Blagden, *Pagan Races of the Malay Peninsula*, II, 57, 77.
10 Westermarck, *op. cit.*, p. 250 n. 1.
11 Fielding Hall, *op. cit.*, p. 188.
12 Barua, *Notes on the Marriage Systems of the Peoples of Assam*, p. 51.
13 Hutchinson, *op. cit.*, p. 119 sq.
14 Dalton, *Descriptive Ethnology of Bengal*, p. 216.
15 Rao, H., ' Irulans of the Gingee Hills ' in *Anthropos*, VI, 811.
16 Westermarck, *op. cit.*, p. 250, n. 1.
17 Hutchinson, *op. cit.*, p. 97.
18 Forsyth, *Highlands of Central India*.

the higher castes of the Hindus in modern [1] and ancient India ;[2] among the Parsees;[3] among the Sakalava of Madagascar;[4] in Morocco,[5] and among the Niam-Niam[6] of Africa; in ancient Greece,[7] and among the Slovens of Corinthia in modern Greece;[8] in ancient Italy ;[9] and in Switzerland, Germany, Belgium, Sweden, Russia, and among various Ugro-Finnic peoples of modern Europe.[10] "Yet," says Wertermarck, "in spite of its occurrence among so many peoples of the Indo-European race we cannot be certain that it was a primitive Indo-European custom."[11] In support of this contention he has put forward the views of Winternitz who is of opinion that this custom originated independently among the different branches of the Indo-European race. Winternitz, as quoted by Westermarck, says : "It would be different if we found exactly the same kind of dish—say, the wedding cake—used among all the different Indo-European peoples, or if the ceremony had its fixed place in the marriage ritual, like the joining of hands, and some other customs."[12] But we are of opinion that so important and widespread a rite has, very probably, an Indo-European origin. In support of our contention we may say that if we analyse the range of possible variation in some of the other customs, such as the scattering of cereals, which is undoubtedly Indo-European in origin, we find that it is quite possible and probable that the different kinds of dish were adopted by the different peoples according to their convenience and choice.

1 Padfield, *op. cit.*, p. 111 sq.
2 Grihya Sutras, II. 49.
3 Modi, J. J., *op. cit.*
4 Westermarck, *op. cit.*, p. 449.
5 *Idem, Marriage Ceremonies in Morocco*, pp. 231, 251, 258.
6 *Idem, History of Human Marriage*, Vol. II. p. 449.
7 *Ibid*, p. 450.
8 *Ibid*, p. 454, n. 2.
9 Fowler, *Social Life at Rome in the Age of Cicero*, p. 136.
10 Westermarck, *op. cit.*, p. 451, n. 2.
11 *Ibid*, p. 451.
12 *Ibid*, p. 451.

(c) *Lāja Hōma.*

Another marriage rite—the rite of scattering some kind of cereals or fruits—has been traced to the primitive Indo-European times. The throwing of parched grains to the fire is the main incident of the rite known as *Lāja Hōma* among the higher castes of India. But we find, more than often, that the cereals or fruits, or both, are thrown over the heads of the couple. It has also been found that the custom of scattering cereals extends from India, Indo-China, and the Indian Archipelago in the East to the Atlantic Ocean in the West. We may also suggest that it is one of the rites performed in order to ensure and promote fecundity, or, may be, to ensure prosperity and abundance only. Thus the Guanches of the Canary Islands throw grains on the faces of the newly-weds.[1] In Siberia among the Buryats,[2] in China,[3] and in Tibet [4] boiled rice in five bunches is suspended from the curtain-frame of the bridal bed. In Siam the bride and the bridegroom are sprinkled with rice, scented oil, and flowers.[5] Among the Karens of Martaban some rice are placed on the heads of the couple.[6] In India we can trace the custom of offering parched grains to the fire from the Grihya Sūtras through the Classical Sanskrit literature down to the present day.[7] Among the Hindus of South India rice is thrown at the pair.[8] Among the Gonds of the Eastern Ghats the assembled females throw yellow-coloured rice on the couple.[9] Among the Yanadis of North Arcot the bride and the bridegroom throw a handful of rice on

1 Cook, A. C.,'Aborigines of the Canary Island ' in *American Anthropologist*, N.S., II, 478.

2 Miss Czaplicka, *op. cit.*, p. 119.

3 Doolittle, *Social Life of the Chinese*, I, 76, 79, 83 sq.

4 Das, S. C., ' Marriage Customs of Tibet ' in *Jour. Asiatic Soc. Bengal*, Vol. LXII, Pt. III, 19.

5 Young, *Kingdom of the Yellow Robe*, p. 95.

6 Westermarck, *History of Human Marriage*, Vol. II, p. 471.

7 *Ibid*, p. 471.

8 Padfield, *op. cit.*, p. 108.

9 Rao, H., in *Anthropos*, V. 794.

each other's head three times.[1] Among the Coorgs the bridegroom strews a few grains of rice upon the bride's head.[2] Among the Mundas of Chota Nagpur the bridegroom throws three handfuls of rice at the forehead of the bride, and she also does the same in her turn.[3] Customs which partake of a similar nature are also found among the Oraons of Chota Nagpur;[4] in Bihar;[5] in Daristan;[6] among the Marathas;[7] among the Parsees;[8] among the Berads of Bombay;[9] and among the high-caste Hindus of the Punjab.[10] In Syria and Palestine they throw grains and salt on the people assembled at a wedding.[11] Among the Wabondei of Central Africa rice and maize are thrown over the heads of the pair.[12] In Morocco the bride is received with grains, flour, bread, etc.[13] In South Albania the bridegroom's mother throws rice over the bride.[14] In ancient Greece dates, figs, nuts, coins, etc, were showered on the couple, and in modern Greece coins, rice, cotton-seeds, etc., are scattered over the bridal procession.[15] In Italy grains are thrown over the couple or over the bridal party; and among the old Prussians the bride was taken to all the doors of her new home, and at each door she was sprinkled with barley, wheat, and pulse.[16] In the Slavonic countries among the Great Russians, White Russians, Southern Slavs, and Little Russians

1 Cox, *Madras District Manuals*: North Arcot, I, 250.
2 Moegling, *Coorg Memoirs*, p. 39.
3 Ray, S. C., *Mundas*, p. 447.
4 Ray, S. C., *The Oraon Religion and Religious Customs*.
5 Grierson, *Bihar Peasant Life*, p. 364 sq.
6 Biddulph, *Tribes of the Hindoo Koosh*, p. 79 sq.
7 Shastri, in the *Punjab Notes and Queries*, I, 99.
8 Modi, J. J., *Marriage Customs of the Parsees*.
9 Crooke, in *Folk-Lore*, XIII, 235.
10 Maya Das, in the *Punjab Notes and Queries*, p. 98.
11 Westermarck, *op. cit.*, p. 482.
12 *Ibid*, p. 478.
13 *Idem*, *Marriage Ceremonies in Morocco*, pp. 194-198, 201, 204-207, 209, 211-214, 216.
14 Miss Durham, *High Albania*, p. 86.
15 Westermarck, *History of Human Marriage*, II, p. 473.
16 *Ibid*, p. 475.

the bride and the bridegroom are sprinkled with corn, or corn and hops, or corn and almonds and coins, or hops or wheat, or hops or grains and nuts.[1] Among the Ugro-Finnic peoples this custom of throwing barley or wheat is found.[2] In some parts of France hemp-seed or wheat is showered over the couple, and in Silesia and Bohemia peas or grains of peeled barley are thrown over the bride and the bridegroom.[3] In England other things than rice were formerly, and are still in some places, thrown on the bride apart from the modern adoption of confetti.[4] Lastly, among the Jews all over the world are found similar customs of throwing wheat or similar other things.[5]

(d) *Agni-parikramaṇa.*

Agni-parikramaṇa or the circumambulation of fire is said to be a customary rite among the Indo-Europeans. In the Vedas it is found that the joining of hands was followed by the ceremony of leading the bride three times round the sacrificial fire,[6] and in the Grihya Sūtras too we read of an identical practice.[7] This rite is still performed by the higher-caste Hindus of India. Among the Merina of Madagascar, the bridal procession goes three times round the fire-place.[8] Among the Aith Sadden near Fez it was formerly the custom that the mother of the bridegroom led the bride to the fire-place.[9] Among the Croats the bridesman leads the bride three times round the fire of the hearth and each time the bride bows before it ; and in many parts of Germany the bride is led three times round the fire by the bridegroom or his mother.[10] In

1 *Ibid*, p. 474.
2 Westermarck, *op. cit.*, p. 476.
3 *Ibid*, p. 475.
4 *Ibid*, p. 476.
5 *Ibid*, p. 477.
6 Crooke, *Popular Religion and Folk-Lore of Northern India*, I, 11 ; Padfield, *op. cit.* p. 108 sq.
7 Grihya Sūtras, I, 168, 283, 384 ; II, 46, 191, 260, sq.
8 Padfield, *op. cit.*, p. 108 sq.
9 Grandidier, *Ethnographie de Madagascar*, II, 183.
10 Westermarck, *op. cit.*, p. 513.

Westphalia[1] and in the North-Eastern part of Scotland[2] the bride is simply led to the hearth.

(e) Sitting on an animal skin.

Among several Indo-European peoples we find that the rite of making the bride alone, or the couple together, sit upon an animal hide was, or still is, customary; and has therefore been considered to have originated in the ancient Indo-European times. Thus, in the Atharva Veda we find that the bride, as soon as she arrived at her new home, was made to sit upon a red bull's hide. But in two of the Gṛhya Sūtras we find that it was customary for both the bride and the bridegroom to sit upon the red bull's hide.[3] The Nambuthiri and the Tamil Brahmins of South India still observe this rite,[4] but in Bengal it is now done only theoretically by chanting hymns which mean that the bride is being seated on a red bull's hide. In Rome the custom was to place the bride on a sheep-skin, but the Slavonic peoples use a fur, a cushion, or a piece of cloth.[5]

(f) Placing a boy on the bride's lap.

Another rite practised with a view to making the wife fruitful, or the mother of male children, is the placing of a boy on the lap of the bride. This also seems to be Indo-European in origin on account of its occurrence among many peoples of the Indo-European race. But this rite of placing a boy on the bride's lap which is the custom found in India, has undergone a great variation among the different peoples. We learn from the Gṛhya Sūtras that in ancient India, as soon as the bride entered her new home and sat upon a red bull's hide, a boy of very tender age was placed on her lap as a symbol of male progeny.[6] In Bengal, in addition to the above custom, the boy is given a fruit to eat. Among the

1 *Ibid*, p. 512.
2 Gregor, *Notes on the Folk-Lore of the North-East of Scotland*, p. 93.
3 Winternitz, *op. cit.*, p. 273 sq.
4 Iyer L. K. A., *Cochin Tribes and Castes*, Vol. II.
5 Westermarck, *op. cit.*, p. 470.
6 *Ibid*, p. 469.

Manchus in China, when the bridal sedan chair is sent to the bride's house it is generally occupied by a little boy.[1] Among the Roman Catholics of Scutari, a little boy is placed into the carriage in which the bride drives from the church to the bridegroom's house.[2] Among the Masai in Africa a boy is placed on the bride's lap at the time of marriage.[3] In some parts of Sweden the bride must have a baby boy to sleep with her on the night before the wedding.[4] Among the Esthonians and the Slavonic peoples a boy is placed on the bride's lap.[5]

Besides these Westermarck records some traits such as the purificatory bath, fasting on the wedding day, keeping awake on the wedding night, etc., as fairly widespread. On the other hand, some taboo previous to the consummation of marriage seems to be still more universal and may go back to the most primitive times.

(g) Purificatory bath.

The custom of bathing the bride alone, or both the bride and the bridegroom, for purificatory purposes at the time, or just before the marriage ceremony, is very widespread. We find this custom to be universal among some branches of the Indo-European race, *e.g.*, the ancient and modern Hindus considered, and still consider, the bathing of the bride and the bridegroom before the marriage ceremony as of primary importance.[6] Similar is the custom with the Parsees.[7]

The ancient and modern Greeks bathe both the bride and the bridegroom like the Hindus, but in Rumania and Sweden it is the bride alone who is bathed.[8] Among the Mahomedans of

[1] Stewart-Lockhart, In *Folk-Lore*, I, 486.
[2] Westermarck, *op. cit.*, p. 468.
[3] Merker, *Die Masai*, p. 48.
[4] Lloyd, *Peasant Life in Sweden*, p. 85.
[5] Westermarck, *op. cit.*, p. 468.
[6] Winternitz, *op. cit.*, p. 274 sq.; Padfield, *op. cit.*, p. 103. [Grierson, *op. cit.*, p. 370.
[7] Atkinson, *Customs and Manners of Women in Persia*, p. 43.
[8] Westermarck, *op. cit.*, p. 505.

Morocco,[1] Fez[2] and Tunis[3] also the couple take a ceremonial bath before the marriage ceremony. The bride, among the Bedouins of Sinai, is led to a running stream in a procession of ladies and is bathed there on the wedding day.[4] The ceremonial bathing of the couple is also found among the inhabitants of South Celebes[5] and Northern Rhodesia[6] in the primitive world.

(*h*) Local Indo-Vedic.

In addition to the Indo-European rites discussed above we find several other rites practised by the Brahmins of Mymensingh and which are common to the Indian branch of the Indo-European race. We may describe these rites as Indo-Aryan on account of their being confined among the higher castes of India alone. Thus, Varana or the ceremonial acceptance of the suitor as the husband of the bride ; Pādya, or the offering of water to the bridegroom for washing his feet ; and Arghya or the offering of oblations to the bridegroom are the rites which seem to be purely Indo-Aryan in origin, and from these we can guess the amount of esteem with which the suitor was held on the wedding day. Again, the rite known as Nāndeemukham which was the ceremony connected with the offering of oblations to the manes in order to honour them and to solicit their blessings, finds its parallel, besides India, in China only.[7] Other Indo-Aryan rites are Śubha-dṛṣti or the ceremonial exchange of glances, Saptapadī-gamana or the ceremony of seven steps, Uttara-Vivāha which consists in the offering of *ghee* to the fire in the course of chanting several hymns, and Arundhatī Darsana or the star-gazing.

[1] Westermark, *Marriage Ceremonies in Morocco*, pp. 120, n. 2, 161, n. 3, 120, 161, 162, 321, n. 9.

[2] Lane, *Arabian Society in the Middle Ages*, 234.

[3] Westermarck, *History of Human Marriage*, Vol. II, p. 504.

[4] Palmer, *Desert of Exodus*, p. 90.

[5] Westermarck, *op. cit.*, p. 506.

[6] Gouldsbury and Sheane, *Great Plateau of Northern Rhodesia*, p. 160 sq.

[7] Chem, *Patriarchal System in China*, p. 4.

There are some taboos which prevent the couple from eating something or from doing some acts of particular kinds. Thus, among some people we find that the couple must not eat anything on the wedding day until the marriage ceremony is over, *e.g.*, among the higher castes of Bengal; in Russia;[1] among the Masai of Africa;[2] and amongst several of the Amerindian tribes, *viz.*, the Peruvians,[3] the Macusi[4] and the Tlingit.[5]

II. Primitive taboos: (a) Fasting.

Another taboo is against sleeping on the wedding night. It has an Eastern distribution which extends from India to New Guinea. Examples of the observance of this taboo are found among the higher castes of India;[6] among the Khyoungtha of Chittagong;[7] among some of the Sumatrans;[8] in Java the taboo is for the night before the wedding, among the Dayks of Borneo;[9] and among the Nufors of Dutch New Guinea.[10]

(b) Keeping awake.

Another taboo which is most universal and can be considered as very primitive is that of abstinence from the act of cohabitation after marriage. The period of abstinence before the consummation of marriage varies with the different peoples. Instances of such abstinence may be quoted from all parts of the globe. The following are the examples of such abstinence with their corresponding period :—

(c) Abstinence before consummation.

(1) Among the Tlingit of North America—four weeks.[11]

1 Westermarck, *op. cit.*, p. 545.
2 Merker, *op. cit.* p. 48.
3 Westermarck, *op. cit.*, p. 545.
4 Im Thurn, *Among the Indians of Guiana*, p. 222.
5 Bancroft, *Native Races of the Pacific States of North America*, I, 111.
6 Westermarck, *op., cit.*, p. 547.
7 Lewin, *Wild Races of South-Eastern India*, p. 130.
8 Marsden, *History of Sumatra*, p. 269.
9 Westermarck, *op. cit.*, p. 547.
10 Fraser, *Folk-Lore in the Old Testament*, I, p. 511 sq.
11 Bancroft, *op. cit.*, i, III.

(2) Among the Red Indians of British Columbia—generally four nights.[1]

(3) Among the Nookat of North America—10 days.[2]

(4) Among some of the other Red Indian tribes of North America,the period varies from a few months to even a year.[3]

(5) Among the ancient Mexicans—4 days.[4]

(6) Among the Karaya of Brazil—more than 4 days.[5]

(7) Among the natives of Fraser Island, Queensland—nearly two months.[6]

(8) Among the Roro-speaking tribes of British New Guinea —a few weeks.[7]

(9) Among the Dyaks of Dutch Borneo—the first night.[8]

(10) In the Barito Valley of Dutch Borneo—3 nights.[9]

(11) Among the Arunta and Loritja of Australia—till the second night.[10]

(12) Among the Euahlayi of Australia—one moon.[11]

(13) Among the Madurese and in some parts of Eastern Java —until the third night.[12]

(14) In Central Sumatra—three nights.[13]

(15) Among the high families of Southern Celebes—about a month.[14]

(16) In the Kei Island—three nights.[15]

1 Westermarck, *op. cit.*, p. 548.
2 Bancroft, *op. cit.*, II, 261.
3 Westermarck, *op. cit.*, p. 548.
4 Clavigero, *History of Mexico*, I, 320 sq.
5 Westermarck, *op. cit.*, p. 549.
6 Brough Smyth, *Aborigines of Victoria*, I, 84 n*.
7 Seligman, *Melanesians of British New Guinea* p. 270.
8 Westermarck, *op. cit.*, p. 552.
9 *Ibid*, p. 553.
10 Westermarck, *op. cit.*, p. 551.
11 Mrs. Langloh Parker, *Euahlayi Tribe*, p. 58.
12 Veth, *Java*, IV, 396.
13 Westermarck, *op. cit.*, p. 553.
14 *Ibid*, p. 553.
15 *Ibid*, p. 554.

(17) In the Patani States of Malacca—three nights.[1]

(18) Among the Kachins of Chingpaws of Upper Burma—several days.[2]

(19) Among the Khyoungtha of Chittagong—seven days.[3]

(20) In some of the wild tribes of Assam—three nights.[4]

(21) Among the Kacharis—five days.[5]

(22) Among the Hindu Chutiyas of Assam—one week.[6]

(23) Among the Ao Nagas—six nights.[7]

(24) Among the Angami Nagas—nine or ten days.[8]

(25) Among the Nagas of Manipur—about a month.[9]

(26) Among the Rajjhars of the Central Province—the first night.[10]

(27) Among the Nayars, Variyars, Pisharotis, and the Nambuthiri Brahmins—till the fourth night.[11]

(28) Among the Ulladans of Cochin—one or two weeks.[12]

(29) Among the persons belonging to the Agasa caste of Mysore—a fortnight.[13]

(30) Among the Kurubas of South India—three months.[14]

(31) Among the Kammas, a Telugu caste—three months.[15]

(32) Among the Wazirs of Bannu in the Punjab—the period is not fixed, but they observe the taboo for a long time.[16]

1 *Ibid*, p. 554.
2 Scott and Hardiman, *Gazetteer of Upper Burma*, Pt. I, Vol. I, p. 407.
3 Lewin, *op. cit.*, p. 130.
4 Westermarck, *op. cit.*, p. 555.
5 Endle, *op. cit.*, p. 46.
6 *Ibid*, p. 95.
7 Gait, *Census of India*, 1891, Assam, Vol. I, p. 245
8 *Ibid*, p. 239.
9 Hodson, *Naga Tribes of Manipur*, p. 87.
10 Russel, *Tribes and Castes of the Central Provinces of India*, IV, p. 407.
11 Iyer, L. K. A., *Cochin Tribes and Castes*, II 139, 143, 192.
12 *Idem*, *Cochin Tribes and Castes*, I, 61.
13 Aiyar, T., *Census of India*, 1911, Vol. XXI (Mysore), Report, 100.
14 *Ibid*.
15 Thurston, *Castes and Tribes of South India*, III, 103.
16 Rose, *Glossary of the Tribes and Castes of the Punjab and the North-Western Frontier Provinces*, III, 103.

(33) In Beluchistan—three nights.[1]

(34) In the Gṛhya Sutras the period prescribed for abstinence is three nights,[2] but in other codes it is extended to six or twelve nights, or four or six months, or even a year.[3]

(35) Among the Herero of Africa—the wedding night.[4]

(36) Among the Bonyoro—two days.[5]

(37) Among the Baganda—till the third night.[6]

(38) Among the Banyankole of Africa—till the third night.[7]

(39) In Usambara in Africa—five nights.[8]

(40) In Egypt—one week.[9]

(41) In Herzegovina and Montenegro—the bridegroom's mother decides when the period shall end.[10]

(42) Among the Serbs of Banat—the first night.[11]

(43) Among the Roman Catholics of Upper Albania—the first three nights.[12]

(44) In some parts of France—three, or two, or one night.[13]

(45) In various parts of Germany and Switzerland—three nights.[14]

(46) In Lower Brittany—a fortnight, or even longer.[15]

(47) In some parts of Scotland—the first night.[16]

(48) Among the ancient Esthonians—the first night.[17]

(49) Among the ancient Samoyeds and Ostyaks—a month.[18]

1 Bray, *Census of India*, 1911, Vol. IV (Beluchistan), Report, 113.

2 Grihya Sutras, I, 43, 384 ; II, 48.

3 Winternitz, *op. cit.*, p. 86.

4 Westermarck, *op. cit.*, p. 549.

5 Roscoe, *Northern Bantu*, p. 40.

6 *Idem*, *Baganda*, p. 91.

7 Roscoe, *Northern Bantu*, p. 120.

8 Farler, 'Usambara Country in East Africa' in *Proceedings of the Royal Geographical Society*, N.S., I, 92.

9 Lane, *Modern Egyptians*, p. 508.

10 Fraser, *Folk-Lore in the Old Testament*, I, 504.

11 Westermarck, *op. cit.*, p. 557.

12 *Ibid*, p. 557. 13 *Ibid*, p. 558. 14 *Ibid*, p. 558. 15 *Ibid*, p. 558.

16 Lord Hailes, *Annals of Scotland*, III, 15 nn*.

17 Westermarck, *op. cit.*, p. 559.

18 *Ibid*, p. 559.

III. Indo-Pacific or Austric traits.

Besides these there are certain traits which are common to Chota Nagpur and Bengal, and to which we can attribute an Austric origin They are, the making of 'Ulu' sounds, the worship of the tree-trunk, the treading on the curry-stone, the use of the winnowing fan, turmeric, mustard oil, vermilion and mango-twigs, the ceremonial cutting of water, the wearing of an iron wristlet, the drawing of 'Ālpanā,' etc. Several of the above traits are also found elsewhere. Thus, the Ahom Chutiyas of Assam, the Kadupattans of South India, some peoples of Orissa and the North Western Province, and the Parsees use turmeric in connection with marriage ceremonies, for ritualistic purposes. Besides Bengal and Chota Nagpur we find the use of vermilion among some of the inhabitants of the Raj Mahal Hills in the United Provinces of India, and among some peoples of the Central Provinces, Behar, Orissa, North-Western Provinces, etc. "It has been suggested," says Westermarck, "or even taken for granted, that the custom prevalent in several aboriginal tribes of India, of the bridegroom marking the bride, or the bridegroom and the bride marking each other, with red lead is a later transformation of the custom of marking with blood ; but although this may be the case, we can hardly be positive that it is so, considering how often, in India as well as elsewhere, the red colour is used in marriage rites in circumstances which do not allow us to presume that the use of it is the survival of an earlier practice of using human blood." [1] As regards the use of oil, we find that cocoanut oil is used by several other peoples, *viz.*, the Siamese, the inhabitants of Ponape in the Caroline Islands, the Nayars, the Nambuthiris and others, in the marriage rites, but the use of mustard oil is restricted to Orissa, Bengal and Chota Nagpur.

There is also another trait, such as, the use of betel, which though not found in Chota Nagpur, spread from Bihar [2] and Bengal

[1] Westermarck, *op. cit.*, p. 446-47.

[2] O'Malley, *Census of India*, 1911, V (Bengal, Bihar and Orissa and Sikkim) Report, p. 320 sq.

to the Pacific area. This trait may be considered as an Indo-Melanesian culture trait. Thus, in Malay Peninsula betel is presented as a pledge of marriage.[1] In Borneo it is customary to offer betel-leaves to the father of the bride at the time of making proposals of marriage.[2] In South Celebes the bridegroom is offered the betel-box of the bride.[3] In Halmahera, too, the proposal of marriage is made by offering betels.[4] In the Kei Island the couple exchange and eat betels.[5] The Aru bride and the bridegroom take betel together.[6] A similar practice is also found in New Guinea.[7]

IV. Preferential position of the mother's brother; possibly a Dravidian trait in India.

We should now consider the reason behind the first preference of the mother's brother as the person giving away the bride in Mymensingh. It is, we think, due to the matriarchal Dravidian influence. The authority of the mother's brother seems to be paramount among many peoples, and it is found to extend from America to Africa. Thus, among the Amer-indians of North America the consent of the mother's brother is essential for the conclusion of a valid marriage.[8] Among the Caribbean tribes of Columbia everything in connection with marriage is settled between the maternal uncles of both the parties.[9] In the Mortlock Island also it is the mother's brother who negotiates marriages.[10] In Northern Papua [11] and in the Bank's Island [12] again, everything in connection with the marriage of a boy is arranged by the mother's brother. Among the Menangkabau Malays all talks

[1] Skeat, W.W., *Malay Magic* (1900), p. 365.
[2] Crawley E., *The Malay Rose*, Vol. I (London, 1927).
[3] *Ibid.*
[4] *Ibid.*
[5] *Ibid.*
[6] *Ibid.*
[7] *Ibid.*
[8] Morgan, L. H., *Ancient Society*, p. 439.
[9] Nicholas, F. C., In *American Anthropologist*, N. S., III, 647 sq.
[10] Briffault, *The Mothers* (Lond, 1927) I, 541.
[11] *Ibid.*
[12] Rivers, W. H., *The History of Melanesian Society*, 1, 39.

in connection with a proposed marriage are carried on between the mother's brothers of the bride and the bridegroom.[1] Among the Kurubas and Kallans of South India no marriage is valid without the consent of the mother's brother.[2] Among the Jogis,[3] Mogers,[4] and the Muka Doras [5] of South India the mother's brother performs the whole ceremony of marriage. Among the Agariya and other castes of Bengal everything in connection with a boy's marriage is arranged by his mother's brother.[6] Similar are the cases with the Ahirs, Bhars, Chamars, I'ragis, Khairwās, Korwas and the Byadha Nats of the North Western Provinces of India.[7] About the father of a Brahmin girl of Beluchistan it is said thus—"In older days it would have been a scandal for him to put in an appearance at all; he was expected to quit the house, leaving his wife's brother in possession to act as head of the family."[8] In Tibet and in Sikkim the consent of the mother's brother is of primary importance for the conclusion of a valid marriage.[9] Among the Basutos [10] and the inhabitants of the Congo area [11] the mother's brother does everything in connection with a marriage, and the father of the bride keeps himself away. Similar is also the case with the Masai of Africa.[12]

Finally, it is possible to point out some rites and observances which are at first sight confined to Bengal alone, nay, even restricted to Mymensingh. This list may be made to include the ceremonies such as Tel-kāpar or Tel-halud or the

[1] Briffault, *op. cit.*, p. 541.
[2] Thurston, E., *Castes and Tribes of South India*, IV, 147.
[3] *Ibid*, p. 147.
[4] *Idem*, *Ethnographic Notes of South India*, p. 80.
[5] *Idem*, *Castes and Tribes of South India*, V, 103 sq.
[6] Briffault, R., *op. cit.*, Vol. I, p. 541.
[7] Crooke, *The Tribes and Castes of the North-Western Provinces and Oudh*, I, 3, 58; II, 7, 179; III, 3, 222, 331; IV, 65.
[8] Bray, D., *Census of India*, IV (Beluchistan) Report, p. 112.
[9] Das, S. C., *op. cit.*, p. 15 sq.
[10] Briffault, *op. cit.*, p. 541.
[11] Weeks, J. H., *Among the Primitive Bakongo*, pp. 107, 142.
[12] Fraser, J. G., *Totemism and Exogamy*, II, 409.

ceremony of anointing the bride and the bridegroom with oil and turmeric, Stree-āchār or rites exclusively performed by ladies alone, and Pāka-sparśa or the bride serving the relations of the husband with rice, etc., noticed in Bengal alone ; and such rites as Sohāg-māgan, Śubha-yātrā, Vāsi-vivāha, and Hasta-sparśa confined to Mymensingh only. But analysed into their component traits most of them could be ascribed to one influence or the other.

The traits studied here have been with the motive of finding out stratigraphy of human marriage rites under the special conditions in Bengal. It has been noticed that our enquiry is something different from the investigations of the psychological school which rest satisfied with explanations of the motive behind the rites.

Our analysis is by no means exhaustive. Lack of data from other areas of the nature useful to us has been a great handicap. None the less, the mere study of distribution has brought to light some important facts. Taking thirty traits, or rather rites to be the whole gamut of the marriage ceremony in Mymensingh we found in it at least eight with definite Indo-European distribution and eight more to be definitely later Hindu Indian according to the orthodox Śāstras. The other traits or a little over fifty per cent. of the rites were due to earlier Indian, possibly pre-Vedic or pre-Aryan, elements. While in this the pre-Dravidian or Austric or Indo-Pacific traits could be clearly recognised in nine rites and eight material culture traits it is very hard to distinguish the Dravidian elements except in such cases where survivals of matriliny could be observed, taking for granted that matriliny and South Indian distribution would mark it as Dravidian.

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APPENDIX

	Traits.	India and Burma.	Pacific.	North and Central Asia.	Europe.	Africa.	America.
I.	Indo-European rites :						
(a)	Pāṇigrahaṇa or the Clasping of hands.	Vedic, Gonds, Kadupattans, South India in general, Bengal, the Punjab, Parsees, Sinhalese, Aboms, Bhils, Burma.	New Guinea, the Nufors, the Bonua (Malacca).	.....	Russia, Germany, Poland, Bulgaria, the Saxonians of Transylvania, England.	The Wabondei and the Abyssinians.	.....
(b)	Eating together ...	Shan, Burmese, Miri, Magh, Santals, Irulans, Hill tribes of Central India, Chakmas, Gonds, Karkus, Caste Hindus of Bengal, South India and Behar, Parsees.	Fiji, Mangala, New Hebrides, Malay Archipelago.	.....	Greece, Italy, Switzerland, Germany, Bulgaria, Sweden, Russia, Ugro-Finns.	Sakulava (Madagascar), Morocco, the Niam-Niams.	Navaho, Pawnee.
(c)	Lāja-hōma or the scattering of cereals.	Vedic, Karens, South India, Gonds, Yanadi, Coorgs, Mundas, Oraons, the Punjab, Parsees, Berads, Baiga, Bhumij, Bengal.	Siam, Guanches of Canary Is.	Siberia, China, Tibet, Syria, Palestine.	South Albania, Greece, Italy, Great Russians, Prussia, Southern Slavs, Ugro-Finns, France, Silesia, Bohemia, England.	Wabondei, Morocco.	.....
(d)	Agni-parikramaṇa or The circumambulation of fire.	Vedic, Caste Hindus of Bengal and South India, Mathuria Banjaras of Berar.	.....	.....	Westphalia, North-Eastern Scotland.	Madagascar, Morocco.	.....

I. (e)	Sitting upon a hide	Atharva Veda, the Nambuthiris and Tamil Brahmins of South India, Bengal (theoretically).	.....	.....	Rome and Slavonic countries.	.....	.....
(f)	Placing a baby boy on the bride's lap	Vedic, Bengal ...	.....	The Manchus	Scutari, Sweden and Esthonia.	The Masais.	.....
(g)	Purificatory bath ...	Caste Hindus of Bengal, Bihar, Orissa, South India and the Punjab, the Parsees.	South Celebes	Sinai ...	Greece, Roumania, Sweden.	Morocco, Rhodesia.	The Peruvians, Macusis and the Tlingit.
II.	Hindu Indian rites :						
(a)	Varaṇa or the welcoming of the suitor.	Bengal, South India ...	.....	.....	.....	.....	.....
(b)	Pādya or the offering of water for ablution.	Bengal, South India ...	.....	.....	.....	.....	.....
(c)	Arghya or the offering of oblations to the bridegroom.	Bengal, South India ...	.....	.....	.....	.....	.....
(d)	Nāndimukham or the offerings to the manes.	Bengal, South India ...	.....	China ...	.....	.....	.....

	Traits.	India and Burma.	Pacific.	North and Central Asia.	Europe.	Africa.	America.
(e)	Subhadṛṣṭi or the ceremonial exchange of glances.	Bengal, South India ...	.....	.....	.....	.....	.....
(f)	Saptapadi-gamana or the ceremony of seven steps.	Bengal, South India ...	.....	.....	.....	.....	.....
(g)	Arundhati-darśana ...	Bengal, South India ...	.....	.....	.....	.....	.....
(h)	Homa or the offering of *ghee* (clarified butter) to the fire.	Bengal, South India, Mathuria Banjaras of Berar.	.....	.....	.....	.....	.....
III.	Non-Vedic Material Traits, possibly pre-Aryan :						
(a)	Turmeric	Ahom, Chutiyas of Assam, Bengal, Bihar, Orissa, South India, the Central Provinces, Chota Nagpur, the Parsees, North-Western Provinces.	Polynesia ...	.....	.....	.....	.....
(b)	Oil	Bengal, Bihar, Orissa, South India, Chota Nagpur.	Siam, Caroline Is., Polynesia in general.	.....	.....	.....	.....
(c)	Vermilion	Bengal, Oraon, Munda, etc. of Chota Nagpur, inhabitants of the Rajmahal Hills, the United Provinces, the Central Provinces, Bihar, Orissa, North Western Provinces.	.....	.....	.....	.....	Some of the Amer-indian tribes.

(d)	Betel	Bengal, Chota Nagpur. the United Provinces.	Malay Peninsula, Borneo, South Celebes, Halmahera, Kei, New Guinea.	.....	.....	.....	.....
(e)	Alpanā or the geometric designs drawn with powdered rice and water.	Bengal, Bihar, Orissa, South India, the United Provinces, Chota Nagpur. (Not found in Assam or North and Upper India.)	Polynesia ...	.....	.....	.....	.....
(f)	"Ulu" music ...	Bengal	Polynesia.	.....	.....	.....	.....
(g)	Winnowing fan ...	Bengal, Chota Nagpur, the Central Provinces.	.....	.....	.....	.....	.....
IV.	Pre-Dravidian or Indo-Pacific or Austric rites :						
(a)	Cutting of water ...	Bengal, Chota Nagpur...	.....	.....	.....	.....	.....
(b)	Worship of the tree-trunk.	Bengal, Chota Nagpur...	.....	.....	.....	.....	.....
(c)	Tel-haldd or the anointing of the bride and the groom with oil and turmeric.	Bengal, Chota Nagpur, and the Bhaina of the C. P.	.....	.....	.....	.....	.....
(d)	Treading on the stone.	Bengal, Chota Nagpur, and South India, the Ahirs of the C. P.	.....	.....	.....	.....	.....

	Traits.	India and Burma.	Pacific.	North and Central Asia.	Europe.	Africa.	America.
(e)	Wearing of an iron wristlet.	Bengal, Chota Nagpur ...	.....	.....	.....	.....	.....
(f)	Wearing of conch-shell bangles.	Bengal, Chota Nagpur, South India, the U. P.	Polynesia ...	.....	.....	.....	.....
(g)	Stri-Āchār or female predominance in rites.	Bengal, Chota Nagpur ...	.....	.....	.....	.....	.....
(h)	Joocse relationship of grandfather and grand-daughter.	Bengal, Chota Nagpur, the U. P.	Melanesia, Australia.	.....	.....	.....	.....
V.	Primitive Taboos :						
(a)	Fasting	Bengal	.....	.....	Russia	Masai	Some of the Amer-indians.
(b)	Keeping awake ...	Caste Hindus of Bengal. the Khyoungtha of Chittagong.	Sumatra, Java, Borneo. Dutch New Guinea.	.....	.....	.....	.....
(c)	Abstinence before consummation.	Bengal, Kochin, Khyoungtha, Kachari, Ahom, Chutiya, Ao Naga, Angami Naga, Manipur Naga, Rajjhar, Nayar, Paryar, Pisharoti, Nambuthiri, Ulladan, Agasa, Kurumba, Kunnuvan, Wazir and Benna of Beluchistan, Vedic.	Sumatra, Borneo, New Guinea Fraser Is., .he Arunta, Loritja and Euahlayi tribes, South Celebese, Kei, Patanis (Malacca).	The Samoyeds and the Ostyaks.	Herzegovina, Serbs, Upper Albania, France, Germany, Switzerland, Lower Brittany, Esthonia, Scotland.	The Herero, the Banyoro, the Baganda, the Banyamkole and the Egyptians.	Tlingit, the British Columbia, the Nootka, the Mexicans, the Karaya of Brazil.

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PRESIDENT, 22ND SESSION, INDIAN SCIENCE CONGRESS

RACES OF INDIA

(A Critique of Reports on Indian Anthropology)

BY

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It was the British ethnologists who were first to interest themselves in the case of Indian anthropology. Later on, the decennial Census Reports of the Indian Government began to issue an official statement on the anthropology of India. As such it became an authoritative version with the laymen.

Similarly the Census Report of 1931 of India Government submitted by Dr. J. H. Hutton is recently published. As the anthropological chapter deals with the racial origins of the people of India, the students of Indian anthropology will be interested in the contents. And in this paper an attempt is made to discuss the existing reports on Indian anthropology as far as possible.

Several schools of scientists are making investigations in the field of physical anthropology in India ; notably amongst them are : (1) The European continental school of the French, the German and Italian anthropologists, (2) The English-speaking school of the English and American anthropologists, and lastly, (3) The Indian school which is just in the making.

In this paper we will try to go over the reports of the investigations of each of these schools as far as possible to find the real situation regarding the anthropology of India.

Note. This paper was written mostly in the Anthropological Laboratory, Calcutta University.

It has been my experience to notice that the laymen in anthropology, when trying to find out anything about the anthropology of India, refer to the Census Reports of the India Government. And in this matter, the book of late Sir Herbert Risley entitled '*The People of India*' written on the basis of the investigation conducted by him in connection with the Census of 1901, proves to be very handy to them. As a result this book has got the credence of the outside world, so much so that even some eminent scientists of modern times have accepted some of Risley's conclusions regarding Indian anthropology and society without making further enquiry of his dicta.

This being so, it behoves us to begin our review with the Census Reports on India. As early as 1891 in the Census Report Mr. C. J. O'Donnell had said: "In fact the medium or mesaticephalic head is the most common in the plains of Bengal and Bihar, being the result of interbreeding between the round-headed Mongol and the long-headed Dravir, the Aryan having little to do with the physiognomy of this offspring except in upper India." [1]

As regards the other parts of the Gangetic valley he says: "The Indian races and tribes in the valley of the Ganges from the Afghan frontier to the Bay of Bengal are so absolutely intermingled in blood, that it is impossible to discriminate between the skull characteristics of the castes or functional guilds which has grown up under later Brahminical usage." [2]

Here we first meet with the dictum that a cross between a round-headed subject with that of a long-headed one produces a third type which is intermediate in character. But having regard to the date when this dictum was formulated we may pass it over at present; as regards the latter part of the opinion we will see later on how far it is true.

1 C. J. O'Donnells, "Census of India," Vol. III. "The Lower Provinces of Bengal and their Feudatories," p. 25 f.

2 *Ibid*, p. 258.

Then comes the Census Report of 1901 by Risley.[1] As a result of the data collected by the report, Risley advanced the theories that there are different races living in India, and as a result of the crossing of these races various intermediate groups, *viz.*, Aryo-Dravidian, Mongolo-Dravidian, Scytho-Dravidian, Turko-Iranian races, inhabiting the different tracts of the country, have sprung up. As a consequence of this racial admixture, he said, the social status of a caste is determined by the amount of "Aryan" blood it has got within itself. In Risley's own words, " the social status of a caste stands in inverse ratio with its nasal index." In this work, he also enunciated the theory that out of a crossing between two diverse races, an intermediate race can spring up, and he cited the case of the mesocephaly of the peoples of Bengal as due to hybridization between the brachycephalic Mongolians and the dolichocephalic Dravidians.

After advancing these views Risley said that his conclusions have been accepted by the leading anthropologists of Europe. But in my perusal of the works of different eminent European anthropologists I have not come across the writings of these European anthropologists who have supported the nomenclatures of Risley's intermediate groups, *viz.*, Mongolo-Dravidian, Scytho-Dravidian, Aryo-Dravidian, etc. It is true that after the publication of Risley's report such men as Topinard, Kollmann and Emil Schmidt have said that they agreed with Risley that there were different races which went to make up the present Indian population. Further Topinard and Emil Schmidt have said that in their investigations they have found out that there are three different racial types in India. As regards the nomenclatures, it was Crooke, a colleague of Risley in the Indian Civil Service, who criticised them and said sooner these were done away with the better.[2]

With the publication of the Census Report by Risley containing the anthropological and social theories advanced by him in

[1] H. Risley, " People of India"; " Tribes and Castes of Bengal."

[2] Crookes' Preface to Risley's second edition of "The People of India."

this connection, curiosity was aroused in the mind of some and this set enquiring Indians to think critically about the condition of Indian anthropology.

Then in a subsequent Census it has been opined that as regards Bengal the Varendra Brahmins of North Bengal are of Mongolian origin, because their children show traces of "Mongolic spots" on their backs, and the Rarhi Brahmins of West Bengal are Negritos. Along with it a history of the Rarhi Brahmins was given which was not to be found either in the traditions or in the history of Bengal.

Finally comes the Census Report of India of 1931 of Dr. Hutton which has been released in 1933 for the perusal of the public. This report being the latest publication, caps all in race theories and in stories of different migrations. Of course this report being the latest of its kind, contradicts some of the assertions made in the previous reports. But the family likeness of all these can be discerned in the romantic stories of migrations and counter-migrations that are supposed to have passed from the east, the west and *vice versa* over the sub-continent of India, and the canons of biology have been made away with or dispensed with on the Indian soil to suit the theories of the writers. Further, from all the Census Reports one fact can be gleaned that, in the matter of skin-colour, its hereditary characteristics have been dispensed with while dealing with the migrations imported from other climes in India. Thus if a "Nordic" or a "Mediterranean" or an "Alpine" element did enter India from the outside, then what became of the skin-colour of its Indian representative ? What Mendelian law did work in these representatives of a light-skinned race which came in contact with a darker autochthonous race in India ? For example, some advanced the theory that the Dravidians are a light-skinned race which have migrated from outside.[1] But all the European anthropologists are in accord

[1] Keane, Preface to Iyer's "Cochin Tribes and Castes."

in the matter of the darkness of the skin-colour of the so-called Dravidian race. Hence it is incomprehensible to us why the Mendelian law as to colour has not worked in this case as it has in the case of the hybrids between the Whites and the Negroes of Jamaica and the Rehobother Bastards in South Africa ?[1] Again, if a crossing has taken place between a brachycephalic race with a dolichocephalic one, then it is beyond our knowledge of the science of anthropology to discover why an intermediate head-form should crop up in F_2 generation, as maintained in the previous Census Reports, instead of the process of splitting up taking place according to the Mendelian formulas as demonstrated by Davenport and Fischer, or the case being as in the matter of intermixture between the Polynesians and the Melanesians in the Micronesian Islands as reported by the anthropologists ?

Further the prefixes " Pre " and " Proto" are being used to suggest some new races whose somatic characteristics are not defined and which consequently lead us to anthropological obscurantism ! Again, in the Census Report of 1931 Dr. Hutton says : " Nevertheless Sewell has himself pointed out to this author the possibility of derivation of Proto-australoid type in India from a leptorrhine western type through a series of climatic modification —a transition series commencing in Kish skulls with a nose that is long and narrow passing through Al'Ubaid skulls in which these changes are marked to the maximum alteration found in the Veddahs...Similarly the series presents corresponding relations in the height of the orbit and the degree of prognathism as well as in the byzygomatic breadth...He has added in conversation the series could be prolonged unbroken from Kish westward to terminate in an Anglo-Saxon skull but would probably admit possibility of modification by hybridization as a possible alternative to modification by climate."

Here the opinion of Dr. Sewell, expressed in a private correspondence, is quoted. In this correspondence the

[1] G. C. and C. B. Davenport, " Heredity of Skin-colour in Negro-White Crosses," Amer. Nat. XLIII, 193-211; also E. Fischer, " Die Rehobother Bastards." Jena, 1913.

opinion is expressed that the Proto-australoid in India is derived from a leptorrhine-western type through a series of climatic modifications. It seems in this theory only environment has been taken into account; the orthodox view of heredity as the other factor is ignored. Hence, we are at a loss to understand the new biological laws propounded in it! How can a leptorrhine-western type (Nordic?) transform itself into platyrrhinic "Proto-australoid" type through a series of climatic modifications when the climate of each locality mentioned in this connection is not much different from each other. Certainly the climate of Kish is not much different from that of Al'Ubaid both of which are situated in the Mesopotamian valley. Certainly the climate of these ancient towns were not different from each other in ancient times so as to evolve new biotypes within their own environments. Again, a biotype is not the product of the *milieu* of a town or of a particular locality; man moves about and wanders far away; his milieu-condition is of wider range; so, it will be necessary to see new biotypes evolve in every locality where some new skull or racial element has been discovered. Again, the climate of the Mesopotamian valley is not much different from that of the Indus valley. Then how is it possible to maintain the theory ascribed to Dr. Sewell that the Mohenjo-daro skulls are one of the halting points of this transition series from the Kish skulls. But Sir John Marshall in his report on Mohenjo-daro and Indus Valley civilisation says, "Indus culture was contemporary with the early culture of Sumer and with the later prediluvian culture of Elam and Mesopotamia...Lively intercourse was going on between those countries at the close of the fourth millennium B.C. when Mohenjo-daro and Harappa were in the height of their prosperity."[1]

Hence under these conditions is it necessary to see fresh new biotypes evolve at these localities? Again Drs. Sewell and Guha, who reported on the Mohenjo-daro crania, haves aid:

[1] Sir J. Marshall, "Mohenjo-daro and Indus Valley Civilization," p. 104.

" Certain of the Kish skulls agree in certain characteristics with those from Mohenjodaro that we attribute to Type I (Proto-australoid race)." [1] And as regards Type II (Mediterranean race) they further say " it agrees very well with " skull No. 4 in Buxton's account of Kish remains.[2]

Thus it is clear from the Mohenjodaro report that instead of the evolution of new types similarity and identity have been detected in some of the skulls of both the places.

Further, if the Proto-australoid type of India is the transformed shape of " leptorrhine-western type through a series of climatic modification" then will it not be reasonable to see in the Veddoid type of Ceylon and South India the transformed form of the dolichocephalic-leptorrhine type of North-western India which is alleged to be the descendants of the Western Nordics or Proto-nordics or Caspian type of Central Asia. Is not the climatic milieu of the North-western Himalayan range, different from the semi-tropical jungle environment of South India and Ceylon ? If the argument holds good in one case, it will hold good in the other case also. If this theory be the biological fact, then we come back to the theory of the Sarasins in a reverse way.

But Dr. Sewell is supposed to have left a loop-hole when he is reported to have said, " We would probably admit possibility of modification by hybridization as a possible alternative to modification by climate." Regarding this theory reported by Dr. Hutton, he himself says, " The safest hypothesis at present therefore appears to be that the Proto-australoid type in India is derived from an early migration from the west...that its special features...have been finally determined and permanently characterized in India itself. It is represented in its purest form in the Veddahs, Malvans, Irulas and similar tribes in the hunting stages in Ceylon and Southern India." It seems, without commiting himself to the case of leptorrhiny of Sewell, Dr. Hutton has accepted the former's theory that the Proto-australoids have been

[1] and [2] *Vide* Drs. Sewell and Guhaa' report in "Marshall's Mahenjo-daro, etc.," Vol. II, 636-43.

derived from a western type whose characters have been determined in India. But the Sarasin brothers, Martin, Haddon and others report the existence of tribes in Malay and in Celebes who show affinities with the Veddahs on one hand and the Australians on the other, thus pointing out that the direction of the migration may have started from the East. Regarding this Buxton says, " There seems to be an increasing evidence that this type is widely scattered over South-Eastern Asia." [1] And he further [1a] says that this type is not to be found at Kish as he says, " In the few skulls we possess at Kish there is no evidence of it." [2]

But the question that arises in the mind of the student of anthropology is whether Dr. Hutton's explanation is tenable.

Firstly, we have not yet heard from the anthropologists of other schools about a Proto-australoid race. We have rather heard that the natives of Australia show similar characteristics in their head formation with the Neanderthal skull of Northern Europe. Hence a common origin is suggested, and both are included within " *Homo primigiiniensis* " type. So great an authority as Kollmann has said that the Neanderthal-Spy skulls and the modern Australians belong to the same group coming within the range of variation.[3] As we have not heard anything about the Pre-neanderthals or Proto-neanderthals, we have not yet heard about the Proto-australoids. Apart from members of the German and French schools, Dr. Gates says, " The Australian black fellow appears to be an early palaeolithic survival, resembling Mousterian man." [4] Again Davenport opines that the Australian natives are Neanderthaloids and not different from "the Dravidas." [5] Further, long ago, Turner, Callamand and Emil Schmidt expressed the views that the Dravidas had nothing to do with the Australians.

[1] and [2] Buxton and Rice, " Report of the Human Remains Found at Kish."
—J. R. A. Inst. of Great Britain and Ireland, Vol. LXI, 1933, p. 91.

[3] Kollman, " Die Neanderthal Spy Gruppe"—Blatt des Deutschen Gesellschaft Basel. 1905.

[4] Ruggles Gates, " Heredity in Man," 1929, p. 330. [5] *Ibid.*, p. 300.

[1a] Buxton's " Proto-Indians " are Haddon's Pre-Dravidian group which the latter classes with the Australians—*vide* Buxton and Rice, p. 91.

But here we are confronted with the Proto-australoids of Drs. Sewell and Hutton who are supposed to have been derived from immigrants from the west, who according to the former savant are leptorrhines. Are we to assume by this hypothesis that a Proto-neanderthaloid-leptorrhine race has migrated somewhere from the west stretching from Arabia, Mesopotamia to the vast expanse of the globe ending at the Atlantic Ocean and India ? None of the anthropologists has given us such information as yet! Neither is it maintained that any of the *Homo primiginiensis* series of Neanderthal, Spy, Mousterian, Krapina and Gibraltar is the progenitor of the autochthonous race of India. Further, it is well known that the Neanderthal type was not leptorrhine. Again, if it be suggested that the *Homo Solensis* type of skull recently discovered might have been the progenitor of the Indian "Proto-australoids" then there is no basis for such a hypothesis as yet for, as it is claimed by some, this type is the direct ancestor of the Australian aborigines.[1]

Again, if by the expression "Proto-australoid " is meant the form the race in question had, before it evolved the present characteristics, then would it be wrong to assume that as the present-day Australians are ' Neanderthaloids' and appear to be an early palaeolithic survival, and they are a species of *Homo primiginiensis*, the race preceding the Australian-neanderthaloid species must be of anterior date to that of *Homo primiginiensis*.

The fact is, the skull of the Australian aborigines is similar to the skull of the Palaeolithic Neanderthal man of North Europe, but it is not yet ascertained in which way the migration has taken place. Regarding the stretch of the globe on which the palaeolithic skulls have been discovered, late Prof. von Luschan has said, "Den palaeolithischen Menschen können wir allerdings schon heute mir einiger Sicherheit von Gibraltar über Frankreich West deutschland, Kroatien, bis zu den modernen dunklen Indern, zu den Senoi der malaischen Halbinsel, zu den Toala von Celebes

1 *Vide* Hutton, Census Report.

und zu den Australien verfolgen undhier an eine wirkliche und in sich geschlossener Einheit denken"[1] (The palaeolithic men, of all things now-a-days, with some surety, can be traced from Gibraltar, France, Western Germany, Croatia to the modern dark Indians, to the Senoi of Malay Peninsula, the Toalas of Celebes and the Australians.) This is von Luschan's famous hypothesis of "From Gibraltar to Australia line,[2] that is, according to him the line of migration of palaeolithic Neanderthaloid man. But nobody is sure which is the starting point of the migration of this racial type. And the migration from the west cannot be ascertained. But as regards the hypothesis of affinities between the dark Indians, Veddahs and the Australians, it must be said Turner, Callamand, Emil Schmidt and Virchow deny the existence of such connection.

Leaving the questions of the Neanderthaloid-australoid affinities of India at present, we are confronted with the hypothesis of the presence of the Melanesian elements in India and Burma as thus : " Melanesian elements are apparent in India and Burma though limited in distribution and doubtful in origin or there might have been some migration from east to west.....As a physical type the Melanesian occurs very markedly in the hilly tracts that divide Assam from Burma and in the Nicobars. ...It seems the Melanesian represents a stabilized type derived from mixed Negrito and Proto-australoid elements."

Here an assertion is made thatin the hill tracts that lie beyond the north-eastern frontier of India proper and in the Nicobar Islands, traces of Melanesian type are to be found. It is the first time that such an assertion has been made regarding the anthropology of this quarter. Risley has not mentioned it ; a more recent anthropologist, Dixon, says regarding the anthropology of north-eastern India : " In all the platyrrhine, dolichocephalic types are in the majority, the leptorrhine factors being, except among the Rengma Nagas, present merely as a trace. In most instances

1 F. von Luschan, " Hamitischen typen," Hamburg, 1912.

2 F. von Luschan, " Early Inhabitants of W. Asia," Huxley Memorial Lectures, J.R.A., Vol. XLI, 1911.

the Palae-Alpine is the element of second importance, amounting in some cases to as much as 40 p. c. In stature all are below medium, the figures ranging from an average of 157 cm. for the Khasi to 164 cm. or over among the Angami Nagas. The hair is straight or wavy, sometimes curly; the eyes in some cases show the Mongoloid fold." [1] He says further, " The brachycephalic group includes the Tipra, Magh, Chakma, the Mikir, the Ao and the Sema Nagas and the Ahom of the hill country and Brahmaputra valley. In this group it is the Palae-Alpine type which is present in greatest strength, rising in the case of the Chakma to over 65 p. c." [2]

Thus, dolichocephalic, tall, woolly-haired peoples of the South Sea Islands known as Papuans or Melanesians do not come in question here. Dixon does not mention the presence of woolly hair in this region; but Dr. Hutton contradicts it. He says in an article in " Man in India" [3]: "In a recent important work on the peoples of Asia Dudley Buxton has asserted that there seems to be no evidence of any Negrito blood on the Eastern Frontier of India (quoted in a review in 'Man in India,' Vol. VI, p. 218). It is the purpose of this short paper to indicate what evidence there actually may be for the existence in the past of a substratum of Negrito population in Assam. The Negrito race is Ulotrichous...Now in Naga Hills specimens of more or less ulotrichous hair are to be seen with some frequency in certain areas." Thus Dr. Hutton himself speaks of a Negrito substratum in the region beyond the north-eastern frontier of India, and certainly the Melanesian type is different from that of the Negrito one. As regards the Melanesians Deniker says," There are two subraces; Papuan of New Guinea, with a long face and bent nose, and Melanesian proper with a more broad face and straight or concave nose...They are generally more dolichocephal and bigger than

[1] R. B. Dixon, " The Racial History of Man," New York and London, 1923, p. 261.

[2] *Ibid*, p. 261.

[3] J. H. Hutton, "A Negrito Substratum in the Population of Assam," " Man in India," Vol. VII, No. 4, Oct.-Dec., 1927.

the Papuans."[1] Thus the presence of a Melanesian or Papuan type in this region cannot be raised at all, as no one has demonstrated the presence of such a type in this hill tract. But Hutton speaks of the "specimens of more or less ulotrichous hair are to be seen with some frequency in certain areas"; also he speaks of frizzly hair being a cross between ulotrichous and letrichrous hair. Further in the same article in 'Man in India' he gives the photograph of a frizzly-haired man said to be a Naga. Rudolf Martin classes frizzly hair as a form of ulotrichous hair and he classes the Negroids of Asia, Africa and South Sea as well as the Negroes, Negritos and Melanesians as the ulotrichi people.[2]

Thus accepting Hutton's suggestion that ulotrichous persons are to be found in the Hill tracts, yet it cannot be proved that they are Melanesians; rather in his article in 'Man in India' he sugests the presence of a Negrito substratum in the past; but in the Census Report he speaks of a Melanesian element being present in the same region and in the Nicobars. In this wise he contradicts himself.

On the other hand, Haddon speaks of an element (dolichocephalic mesorrhine), which he terms Nesiot, to be present in the same Hill tracts. He says, "It may be tentatively suggested that there is an ancient dolichocephalic platyrrhine type (Pre-dravidian) which is strong among the Naga, Khasi, Kuki, Manipuri, Mikir, Kachari. etc., but is weaker among the Naga tribes.[3] There is reason to believe that a Nesiot element is strong among the Naga and other hill tribes." Thus we see the reports of various investigators are contradictory to each other!

Then speaking about Dr. Handy' suggestion of two courses of prehistoric migration from West to East, Dr. Hutton says: "It seems reasonable to postulate an alternative route across India and the Bay of Bengal for Elamites and dwellers in

[1] J. Deniker, "Les Races et les Peuples dela Terre," 1926, pp. 611-15.
[2] R. Martin, "Lehrbuch der Anthropologie," Bd. I, Jena, 1928.
[3] Haddon, "Races of Man." Cambridge, 1920.

Mesopotamia of the Mediterranean Race having reached the Indian Archipelago. For overlaid as it is with Pareoean elements and confused with submerged Negroid races, the basic type of the Nēsiōt race is generally regarded as Mediterranean in origin and as having derived even its prehistoric cultures from the mainland of Asia. So, it seems just possible that the leptorrhine features and fair skins so often seen among the Namasudras of Bengal which are so much at variance with their low social position may be due to settlements left behind in the course of this migration." Here we meet with a very big hypothesis and a very big adventure. The anthropological writer of the Census Reports imports the Nēsiōts of Haddon who according to him are the Indonesians, from the west across India to the Eastern Archipelago. Here the question arises who are these Nēsiōts ? Are they the same as the old Indonesians of which Deniker speaks as "diverse elements de Celebes et Malacca etc."? [1] If the Indonesians be the Nēsiōt, then they resemble the Malay, as Deniker further adds, "d'autre part, les Indonesiens se rapprochent singulièrement de Malais." [2]

After all, the importation of the Nēsiōt-Mediterranean from the west is a big adventure, and to see in the leptorrhine and fair-skinned Namasudras a remnant of the dolichocephalic-mesorrhine Nēsiōt of Haddon is beyond the mark. Rather, is it not possible to suggest that the leptorrhiny and fair skin of some of these men of lower strata of society may be due to miscegenation with the members of higher castes ?

Risley in his "Tribes and Castes of Bengal" has given the cephalic and nasal indices of eighty Chandals of Bengal. They are the same as the Namasudras of Bengal. The former name which carries some bad connotation with it from very ancient times is very much resented by the members of the caste in question. Now-a-days they are known by their new appellation "Namasudra." Now in my article entitled "Das

[1] Deniker, p. 632.
[2] *Ibid*, p. 662.

Indische Kasten System,"[1] I have given a biometrical analysis of the said data of Risley, and by making a correlation of cephalic and nasal indices I have found out the following result :

Chandal (Namasudra).

Dolichoid Leptorrhine	...14·92%	Brachycephal Leptorrhine	...11·84%
,, Mesorrhine	...50·74%	,, Mesorrhine	...10·44%
,, Chamoerrhine...	8·95%	,, Chamoerrhine...	2·85%

In this biometrical analysis we see the dolichoid and brachycephal leptorrhins are strongly represented, and referring to the same article in question it would be seen that the castes higher than the Namasudras, *viz.*, the Brahmans, have the same elements with 42%, the Kayasthas with 47%, the Sadgop with 27%, the Goala with 24%, the Kaivarta with 13%. Again, the Brahmins have dolichoid-mesorrhin element in them with 40%, the Kayastha with 38%, the Sadgop with 50%, the Goala with 58%, the Kaibarta with 54%. Thus the leptorrhine and the fair skin of some of the Namasudras may not be due to the belated Nēsiōts; rather they have this element in common with the other castes of Bengal. Again, if the dolichoid-(dolichocephal and mesocephal) mesorrhine is the characteristic of the Nēsiōt Mediterraneans of Haddon, then a reference to the abovementioned article will show that it is the dominant element with most of the castes from the Punjab down to Bengal, and a further reference to Risley's lists of averages of the South Indian castes will bear the same testimony that dolichoid-mesorrhine is the dominant type in India. Hence any talk of the presence of leptorrhines amongst the Namasudras as due to the Nēsiōts who are left behind is not reasonable. The Namasudras cannot be singled out to prove a hypothesis.

On the other hand Dudley Buxton,[2] discussing the anthropology of South India has drawn a line of demarcation between

[1] Anthropos, Band XXII, 1927.

[2] " Report on the Human Remains found at Kish " in J.R.A.I., Vol. LXI, 1931.

the long-headed broad-nosed Proto-Indian,. and the long-headed narrow-nosed Chersiots. In the way of explanation he says, "Examining the figures in South India it would seem if the type were mixed, namely a very broad-nosed type and a narrower-nosed type, and the division of Risley's original Dravidians into Dravidians and Pre-dravidians is now generally recognised. "But these terms are unsatisfactory." For the narrower-nosed peoples I suggest the term Çhersiots, mainlanders." Thus in India he divides "three types of long heads : (1) broad-nosed Proto-Indians, (2) uarrow-nosed Chersists and (3) the tall narrow-nosed peoples whom Haddon has called Indo-Afghans. All three belong to the dolichocephalic group of curly-haired peoples."[1] As regards his Chersiots he further says that the Dravidians to whom Dr. Hall refers, in suggesting a comparison between the Sumerian types and those of India, are the Chersiots. The word "Chersiot" has been used in contrast to the word "Nēsiōt." The physical characteristics of these Chersiots are given by Buxton as "long-headed peoples, usually of small statures and narrower noses. These people extend from the Mediterranean to India and indeed beyond these limits. There seems to me an essential similarity between the Chersiots and the people of Mesopotamia. There is a very marked difference in skin colour, possibly due to environmental conditions but as yet not fully explained."[2]

It is clear that Buxton's Chersiots are the Dolichoid-mesorrhine group mentioned above. They may be the so-called Dravidians. When the long-headed broad-nosed peoples are called as "Proto-Indians" and are identified with Haddon's Pre-Dravidians, and the tall narrow-nosed peoples as the Indo-Afghans, then the remainder must be the so-called 'Dravidians.' Indeed, as mentined above, the Dravidians of Hall are the Chersiots of Buxton. Regarding these Dravidians Haddon says : "The Dravidians are usually confounded with the pre-Dravidians. After the elimination of the pre-Dravidians a racial type emerges with finer features than those of

[1] and [2] "Report on the Human Remains found in Kish," J.R.A.I., LXI, 1931, pp. 90-91.

the aborigines, and the conclusion seems evident that this was due to an immigrant people who reached India before 2000 B.C." [1] Hence the Chersiots of Buxton who are differentiated from the broad-nosed type cannot but be the "Dravidians" of Haddon with finer features than those of the aborigines. But as these Chersiots of Buxton extend from the Mediterranean to India, will it be taken for granted that they have migrated to India from the west,[2] while the Nesiots of Haddon are located in the Eastern archipelago side and he finds traces of them amongst the Nagas and other hill tribes. On the other hand, Hutton finds traces of these Nesiots, who according to him are leptorrhine in feature and with fair skins, amongst the low class Namasudras, and he makes them migrate from Mesopotamia.

It seems, the Nesiots and the Chersiots are meant to be the same people who have some affinity with the Mediterraneans of Mesopotamia. Hence it would lead us to believe that the fight is around the nomenclature. But it is not exactly the thing. Haddon's Nēsiōts are "dolichocephalic-mesorrhines" [3] while Buxton's Chersiots are "dolichocephalic and narrow-nosed." Here is an ambiguity. The nose, narrower in comparsion with chamaerrhiny may be mesorrhine or leptorrhine. Is it used in a comparative sense with that of the broad-nosed people? It seems to be so. But there is further differentiation. The Chersiots are short-statured,[4] while the Dravidians of Haddon are medium-statured. Here is a dissimilarity in some racial characteristics.

So, we are at a loss to know whether the leptorrhine fair-skinned element amongst the Namasudras of Bengal as mentioned by Hutton are to fall within the Nesiot or the Chersiot

1 Haddon, "Races of Man," pp. 107-111.

2 Regarding the Sumerian-Dravidians Hall says, "and to this Dravidian ethnic type of India the ancient Sumerian bears most resemblance. And it is by no means improbable that the Sumerians were an Indian race that passed certainly by land perhaps also by sea through to Persia to the valley of the two Rivers." Thus Hall made them migrate from India.—H. R. Hall, "The Ancient History of the Near East," pp. 172-79.

3 *Ibid.*

4 Buxton, J. R. A. I., Vol. LXI, p. 91.

group. To us it seems that this element, as mentioned by Hutton, cannot be singled out as confined amongst the Namasudras, but apart from the fight around a nomenclature we have seen that a dolichoid-leptorrhine element as well as a dolichoidmesorrhine element does exist in India, it exists amongst the Namasudras along with the other castes of the province of Bengal.

Again, the Census Report says, "the vague suggestion of Mongoloid which is so often given by the appearance of hillmen of Chota Nagpur, of Bastar State in C. P. and of Madras Agency tract, may be due to a strain of Pareoean blood which has come in by sea from east." Here a vague suggestion of Mongoloid appearance is spoken. What is this Mongoloid appearance is not mentioned. Thurston does not mention it. All are busy in finding the Negroid in these regions,[1] but so far no one has mentioned about the Mongolian fold or the Epicanthus in the eyes or other Mongolian characteristics of the peoples of these regions. Haddon, while speaking of the Kolarians, says, there is something in the racial appearance of many Kolarians which enable the observer to pick out the typical inhabitant...*infiltration* of Mongolian traits."

Dixon,[2] describing the anthropology of Asia says, "No authentic find of Palaeolithic man has up to the present been made anywhere in the continent and data even of Neolithic age are all but lacking. Yet the outlines of human distribution at a period roughly synchronous with the Neolithic period in Europe, I think, can be dimly seen. At this time southern and eastern borderlands from India around to Kamatschatscka seem to have been occupied in the main by a dolichocephalic, dark-skinned, Negroid population which was a blend in varying proportions of the Proto-Australoid and Proto-Negroid types.....whether the Proto-Australoid type definitely preceded the Proto-Negroid throughout this whole region we have as yet no means of knowing. At any rate, the Proto-Negroid type later came to dominate in the south

1 Haddon.

2 R. B. Dixon, "The Racial History of Man," 1923. p. 213.

at least." Then he says, "Although this blend of Proto-Australoid and Proto-Negroid types formed everywhere the fundamental basis of the population of the borderlands, two other types were also present; probably the earliest of these was the Caspian. The others of these early types present in the borderlands was the Palae-Alpine. At the present day this type exhibits two forms strikingly different in outward appearance, yet closely similar in skeletal characteristics : (1) Mongoloid and (2) Negrito. Both groupsare round-headed, high-skulled, broad-nosed, and these must be classed as belonging to the Palae-Alpine type. For the time being, I shall simply beg the question and refer to the short, Negroid, brachycephalic peoples as the Negrito branch of the Palae-Alpine type...that they were present already in Neolithic times in Further India, and perhaps in India itself, seem very probable." [1] Regarding India he says, the "Proto-australoids" survives in the South India, the Proto-negroid is confined to Central India, the "Caspian" to Northern India and the "Palae-Alpine" type plays a considerable part amongst the Tamils of South India.[2]

Here Dixon introduces new momenclatures and divides the races according to these new names. The upshot of his theories is that the Proto-australoid element, a Proto-negroid element and a Palae-alpine element are to be found amongst the Dravidian-speaking peoples of South India. In order to understand his nomenclatures we will have to refer to the definitions of his nomenclatures. While speaking about the Neanderthal race of Europe he says," It is characterised among the features, by a long low skull and a broad nose, a combination of features which marks these very early men as examples of our Proto-Australoid type." Thus his Neanderthals are Proto-australoid, and the palaeolithic Neanderthal affinities of the Proto-Australoid are stated by him to be found in South India.[3] Regarding the Proto-negroid he says "the statement that among a given people the Proto-Negroid type is strongly represented does not imply that

[1] Dixon, p. 244. [2] Dixon, pp. 249-50. [3] Dixon, pp. 28-30.

they have or had a black skin or woolly hair" [1] and he cites the prehistoric Grimaldi race of southern France as belonging to the Proto-negroid race. His Palae-alpines compose the Mongoloid and the Negritos. We are not sure whether these two groups can be classed together in the same group, because both the groups are round-headed, high-skulled and broad-nosed, but other features, which are parts of racial characteristics in the colour of the skin and the form of hair, are not common.

It is evident that the vague Mongolian appearance spoken of by Hutton and which we are seeking to discover, is not to be found with the races of Dixon. If this comes through the Palae-alpines, then according to Dixon it is confined to the Tamils only.[2] Hence we stand in the same place from where we started to find out this vague Mongolian appearance. But Hutton suggests that the strain of Pareoean blood may account for it.

Now what is a Pareoean race ? Again Haddon comes here to the rescue. The Pareoean is the southern Mongoloid race. Keane speaks of the Malays as southern Mongolians.[3] Then does this vague Mongolian appearance come from some sort of Mongolian racial affinity? If that be so, then we are again driven back to Dixon. But he speaks of Palae-alpine type being found among the "Tamils of South India" only.[4] So, we are in a labyrinth, and the Census reporter has not shown us the way to extricate ourselves out of it.

Dixon says, "The Palae-Alpine type is strongest in Further India...It plays a considerable part among the modern population of Turkestan and perhaps in Tibet, as well as in the Tamils of Southern India and in parts of Korea and Japan" [5] Here it seems he mixes the Eurasiatic Alpines (*Homo Alpinus* of Lapouge) and the so-called East Asiatic brachycephalic Mongoloids in one lump. Perhaps at the back of the mind of the Census reporter these brachycephalic Mongoloids are lurking

1 Dixon, pp. 22-23. 2 Haddon, p. 32. 3 Keane, "Man Past and Present."
4 Dixon, pp. 249-50. 5 Dixon, pp. 249-50.

whose influence he sees in this "vague Mongolian appearance" but in whom he sees the Pareoean affinity.

In the same part of India the Palae-alpines of Dixon are supposed to be found. So it is not impossible to infer that the Pareoeans have Palae-alpine affinity. But the next question crops up at once—which sort of Palae-alpine affinity has the Pareoeans? According to Dixon, "At present this type (Palae-alpines) exhibits two forms—(1) Mongoloid, (2) Negrito.[1] Again, he "refers to the short, Negroid, brachycephalic peoples as the Negrito branch of the Palae-Alpine branch."[2] Naturally we are driven to ask whether Hutton means by these Negritos having a vague Mongolian appearance whom he finds living in the central and southern parts of India. But no one has ever spoken of the Negritos having Mongolian appearance; also no one as yet has spoken of such a large portion of India being peopled by the Negrito race! So, we are still wandering in the labyrinth.

Some have mentioned about the similarity between the "Dravidian eyes" and that of the Mongolian ones, though no one has spoken of any Mongolian fold of the Dravidian eyes. If that be so, then the anthropologists of modern times who have investigated the South Indians would have reported about it. But Emil Schmidt[3] and others are silent about it. So the mysticism about the vague Mongolian appearance remains in its esoteric plane as before.

It is true that one of the skulls discovered at Mohenjodaro has been reported to be identical with a Naga skull.[4] But the stray example of a skull discovered in the debris of a buried town cannot prove the existence of an extensive race over India. Then the Census Report goes on saying that the physical type

[1] Dixon,

[2] *Ibid.*

[3] Emil Schmidt, (1) "Die Anthropologie Indiens," Globus, Bd. 61, 1892.
(2) "Die Rassenverwandschaft der voelker stämme Südindiens und Ceylons," Berlin, 1896.

[4] Sir John Marshall, "Mohenjodaro and the Indus Valley Civilization."

of Muslim cultivators in Eastern Bengal is strongly suggestive of a mixed Mongolian and Proto-australoid strains. The data on which this hypothesis is based are not yet published, hence we are in the dark regarding the true condition, and the way in which hybridism betrays itself in this admixture. But we might draw the attention of the Census reporter that the word Eastern Bengal is a vague one. Certainly, individual Mahomedan cultivators hailing from the districts contiguous to the hills lying on the eastern border of Bengal may show some trace of affinity with the hillmen, but to describe the Mahomedan cultivators of Eastern Bengal as showing "mixed Mongolian and Proto-Australoid strains" on one hand, and to describe the fellow-cultivators of the same region as showing trace of settlement of the members of the Mediterranean race in their migration across India and Bay of Bengal to the Indian Archipelago on the other, is very confusing.

The population statistics of the same census report will show that Namasudras, formerly known as Chandals, are mostly cultivators, and most of this cultivating caste live in East Bengal. Regarding the connection between the Mahomedan cultivators with their Hindu fellow-cultivators, Gait in the Bengal Report of Indian Census, 1901, says, "But the most convincing testimony is that afforded by the exact measurements carried out by Mr. Risley. The average cephalic index of 185 Mahommedans of East Bengal is almost identical with that of 67 Chandals (Namasudras). The nasal index of the Mahommedans was greater than that of the Chandal but not very different from that of the Chandal's half-brothers, the Pods, and in any case a broad nose is characteristic of the Dravidian rather than of the Aryan and Semitic types."[1] Also Gait says, "It seems to me that there can be no doubt as to the local origin of most of the Mahommedans of East and North Bengal. In other parts of the province also the general opinion is that the lower classes of Mahommedans are recruited from the local converts...the

[1] Gait, "Bengal Report," Indian Census, 1901, Vol. VI, pp. 168-69.

affinities of the Mahommedans of East Bengal seem to be with the Pods and Chandals and those of North Bengal with the Rajbansis and Koches."[1]

Thus the Indian Census reporter of 1901 demonstrates the somatic affinities of the Mahomedans of East Bengal with the Namasudras (Chandals) and Pods of the same region, and the reporter of the same Census on Bengal acknowledges the affinities of the Mahomedans with the local Hindus. This being the case, we are at a loss to understand how the reporter of the Census in question can find out different strains amongst the peoples living in the same locality though of different religion. Any way, we must wait for the publication of the data on somatic measurements in order to understand the true situation.

Then again, coming down to South India, the reporter says, "Buxton suggests that Pareoean element extends to Southern India." Here Haddon again comes to the rescue. The Pareoeans are a Southern Mongolian race. Hutton has already suggested the presence of a strain of this blood in Southern India in connection with the "vague Mongolian appearance." If it be Buxton's suggestion, then he has also spoken of long-headed broad-nosed "Proto-Indians" and long-headed narrower-nosed "Chersiots," and the tall long-headed narrow-nosed people called as "Indo-Afghans." Again, in the same region Dixon speaks of the presence of the Palae-alpine type amongst the Tamils of South India. Then where do the "Pareoeans" fit in? Naturally, we are driven back to ask the same question again, whether the Pareoeans have affinities with the Palae-alpines and with which branch? We are again driven back to the old blind alley!

Then the Census Report speaks of a non-Armenoid Alpine population of a brachycephalic leptorrhine type appearing in Bengal and more markedly in West India. Here a non-Armenoid Alpine people are mentioned. It is a new differentiation that is being made by the English school of

[1] Gait, "Bengal Report," Indian Census, 1901 Vol. VI, p. 168-69.

anthropology. Since the discovery of Ujfalvy's belated Savoyards in the Galtchas of the Pamirs, the theory of *Homo Alpinus* extending from the Pamir plateau to Western Europe has been started by him, and has been accepted by all. This type is said to be found in the "Disidis type" in Switzerland. On the Swiss Alps in Graubünden the Alpine type is supposed to be the purest in form. Since that time, it has been the custom with the anthropologists to call the brachycephalic-leptorrhine stocky-built middle-statured race as the "Alpine race" and Sergi has called it the Eur-asiatic race.[1] But von Luschan[2] who was the first to clear the anthropology of Western Asia or Near East, found that the Armenians contained this type in a preponderating percentage amongst themselves hence he termed the Asiatic affinities of this broad-skulled narrow-nosed brunette type as the "Armenoid race;" as the Alps mountain is not situated in Asia the name cannot be used to denote the Asiatic part of the same race. According to him it is a misnomer to call this type of Asia as Alpine, hence the word "Armenoid" corresponding to the word Alpine has been coined by him. Since then the nomenclature "Armenoid" is being used, and no one previously has made any differentiation between the Alpines and the Armenoids. But it has become the vogue with some present-day English-speaking anthropologists to make a differentiation within the same Eur-Asiatic race by making a distinction between an 'Alpine' and an 'Armenoid' type. This differentiation has found an echo in Marshall's "*Mahen-jo-daro and the Indus Civilization*" and also in the Census Report in question where it is said: "this type is probably a specialized off-shoot from the standard Alpine stock." About the presence of this brachy-cephalic leptorrhins in India we will speak later on.

Then the Census Report says that "the Mediterranean race appears to be one that has contributed most to the physical composition of the peoples of India and perhaps also to its culture."

1 Sergi, "The Mediterranean Race."

2 Fedix von Luschan, "Huxley Memorial Lectures." J.R.A.I., 1911.

Anthropologists are now-a-days talking about the predominance of the Mediterranean race in India. But it is very glibly said as no one has told us what variety or varieties of the Mediterranean race are to be found in India! To say that the "Eur-African" variety of human species of Sergi is to be found in India is an easy task, as the dolichoid-mesorrhine element does exist in India. In my article entitled "Das Indische Kasten System" referred to above I have shown that, by making a biometrical analysis of the data of somatic measurements of several castes from the Punjab to Bengal as given by Risley, it has been found out that in all the castes except the Jat-Sikhs the dolichoid-mesorrhine element is in a majority. Further, Risley's list of the castes measured in South India and the data given in his book called "The People of India" reveal the fact that the cephalic and nasal index averages of these castes show them to be dolichoid-mesorrhine. Again, in my dissertation entitled "Eine Untersuchung der Rassenelemente in Belutschistan, Afghanistan und den Nachbarländern des Hindukusch" submitted to the Hamburg University in 1924, by making a biometrical analysis of Risley's data on Beluchistan tribes, I have shown that the dolichoid-mesorrhine biotype is to be found in preponderant number with the Belooches of Murri and Bugti Hills and with the Pani Pathans. I have pointed out further that this type can be followed up to Persia.[1]

Thus the question of the existence of the dolichoid-mesorrhine biotype in India is an important one. If it belongs to the so-called "Mediterranean Race" of Sergi then it must be determined with which branch of the same species, otherwise it will be glib talk.

Since the abovementioned analysis of mine was made, new finds have come to the surface, and the excavations at Kish and at Mohenjodaro have shown the presence of the above type called by the anthropological examiners as the 'Mediterranean Race' at both the places. Thus, Buxton says, "There

1 Daniloff, "Anthropological Characteristics of the Persians." (In Russian.)

are indications that the older population both in India and Mesopotamia before the coming of the roundheads, was similar." [1] But more about it later on.

Further, the anthropological reporter of the Census has expressed the opinion that " we may therefore infer, Northern India was occupied by Mediterraneans before the Armenoid stock began to mingle with them." It is a possibility with which I have also agreed in my abovementioned writing by saying that brachycephal-leptorrhine biotype which is known in Western Asia as the " Armenoidt ype " appears in India as the dolichoid-mesorrhine biotype.

Finally the Census reporter speaks of the Vedic Aryans or Indo-Aryans as the latest incomers in India (*circa* 1500 B.C.) who first occupied the area between Indus and Jumna, and later on sent colonies into Hindustan. These Vedic peoples were called the Proto-Nordic Aryans. It is a new nomenclature used by Haddon.[2] Anyway, by Vedic Aryans it seems they mean the same dolichoid-leptorrhine biotype which the Pan-Germanist writers call as " Nordic." But it seems some of the English-speaking writers have modified the expression "Nordic" as far as India and other parts of Asia are concerned, and they use a modified expression " Proto-Nordic" in order to distinguish it from the blond Nordic. Dixon uses the term "Caucasian," [3] to be applied to the same biotype. But the exponents of the German school of anthropology would not modify the definition of the race speaking the Indo-Germanic language. To them North Europe is the home of the races speaking Indo-European which they call Indo-Germanic language and as late as in the post-war period of world's history, Eugen Fischer says, " philological archaeological and anthropological researches combine to indicate that the primal home of the Indo-Germanic languages must have been in northern Europe." [4] And

[1] Buxton and Ricef, J.R.A.I., Vol. LXI.

[2] Haddon, " Races of Man."

[3] R. B. Dixon, " The Racial History of Man," 1923, pp. 362-67.

[4] Erwin Baur, Eugen Fischer, and Fritz Lenz, " Human Heredity," p. 194.

basing his evidence on the anthropological researches of Von Eickstedt and Emil Schmidt, he still speaks of a migration of the "Nordic" race to India which though modified by admixture with dark autochthones yet have left enough Nordic characteristics in their mongrel descendants.[1]

It is a question of controversy and national world view, and the "Aryan controversy" is a part of national and political controversy in the history of modern world.[2] It will take a volume to discuss this never-ending controversy.

Coming back to the anthropological report of the Indian Census of 1931, we see the learned author has reiterated Risley's dictum that nasal index indicates the social precedence of any caste. In my abovementioned article entitled "Das Indische Kasten System" I have tried to show that the Indian caste system has no racial basis, that the social status of a caste does not stand in inverse ratio with his nasal index. But more of it later on.

Finally the great scholar after bringing all the races of Asia into India sums up his views on Indian anthropology with a résumé saying that the above views are not the final word on races in India. Thus when perusing the anthropological report of the Census of 1931, it is evident to us that the reporter has not led us out of hypothetical speculation into anthropological certitude. While going over the anthropological views in this report, it is evident that the views of the two great English-speaking anthropologists, Haddon and Dixon, crop up often and anon in this paper and once in a while Dudley Buxton comes to the rescue. The impression that it imprints in the mind of the reader is that the spirit of these three members of the English-speaking school dominates this anthropological report of the Indian Census, 1931. But with due deference to the reporter and to the abovementioned gentlemen from whom we learn so much, I must say that there are other schools which have interested themselves in

[1] E. Fischer, etc., "Human Heredity," p. 194.

[2] Ripley, "European Races."

the cause of Indian anthropology, and their investigations and views should be considered as well.

Before we make an excursus to find out the result of the researches of other anthropologists we must fix the topics on which the whole controversy of Indian anthropologists stands. To us, it seems the whole controversy can be decided by settling the questions of the presence of the following racial elements *viz.*, Negrito, Veddah, Dravidian, Mediterranean, Armenoid, Mongolian, the Nordic migration from outside in historical period, and the Mon-Khmer.

The Negrito Question.

People have been on the look-out to find the 'Negro' or 'Negrito' in India for a long time. Since Max Müller discovered the Aryans in the Vedas who described themselves as fair-skinned and decried the dark-skinned 'Dasyus,' and since the similarity between the European languages and Sanskrit was established, the occidental thinkers have been wondering at the dark skin of the present-day Indians! To solve the discrepancy between the so-called "white-skinned" Vedic peoples calling themselves 'Aryas' and the present inhabitants of India, the occidental scholars began their search for the 'Negro' in India, and they are still at it![1]

De Quatrefages,[1] the father of present-day physical anthropology, in his book "Les Pygmies" written in 1887 while tracing the Negritos in India quoted Latham[2] who said of the Rajmahalis of Rajmahal Hills lying on the border of the provinces of Bengal and Bihar, that, "Some say their physiognomy is Mongolian, some say their physiognomy is African." Then he says, "Dans l'Inde et dans ses dependances toutes ou presque toutes les populations de petite taille et à teint noir sont plus ou moins métissées de Negrito."[3] (In India and in its dependencies

[1] A. de Quatrefages, "Les Pygmies," Paris, 1887, Librairie J. B. Bailliere et Fils.
[2] Latham, "Descriptive Ethnology," Vol. II, p. 417.
[3] de Quatrefages, p. 88.

all or nearly all the population of small stature and of black colour, are more or less mixed with the Negrito.) Also he says, "Se sous-type Negrito est un des plus anciens, de la race, et était au moins prédominant dans l'Inde et dans l'Indo-Chine, lorsque commencérent tes croisements." [1] Thus according to him the subtype Negrito is the older section of the Black race and it was somewhat predominant in India and Indo-China where intermixture with other races took place. Then he speaks of a black population stretching from India to Luristan—all this he thinks to be the Dravidian or Negro substratum. He further thinks that Herodotus' oriental Ethiopians will fit in as Dravidian tribe in Luristan (Western Persian province). Herodotus spoke of the oriental Ethiopians as with black skin and straight hair. De Quatrefages also thinks that the Jats as described by Elphinstone are probably the Ethiopians of whom Herodotus has mentioned, and this people have as yet conserved intact the colour and the fundamental type.[2]

Further, de Quatrefages says "Tout tend deplus en plus á demontrer que la race negrito, dont les Mincopis sont les représentants les plus purs, est l'élémentNegre fondamental de toutes ou des presqes toutes les tribus dravidiennes" [3] (All tend to show more and more that the Negrito race whose purest representatives are the Mincopis is the fundamental Negro element of all or nearly all the Dravidian tribes).

Thus de Quatrefages identified the Mincopis of the Andaman Islands as the purest Negritos and the basis of the Dravidians to be Negro race. He regarded the Negritos to be existing in India [4] and again he conjointly with Hamy emphasized the same views.[5]

Before this was established by de Quatrefages, one F. A. Allen read a paper on "The Original Range of the Papuans and Negrito Races" before the Anthropological Institute of England in 1879

[1] De Quatrefages, p. 81.
[2] De Quatrefages, p. 91.
[3] De Quatrefages, p. 189.
[4] "Pygmies," pp. 58-69.
[5] De Quatrefages et Hamy," Crania Ethnica, " 1882, p. 188.

and tried to prove that the Papuans and the Negritos are the relatives of the African Negroes. As regards the Indian aborigines, they are the " Asiatic Ethiopians " mentioned by Homer and the Colchis people of Caucasus are of a black Negrito race.[1]

In 1889 Flower, discussing about the " Pygmy Races of Men " said, " In India proper, especially among the lowest and least civilized tribes, not only of the central and southern districts, but almost to the foot of the Himalayas, in the Punjab and even to the west side of the Indus, according to Quatrefages, frizzly hair, Negro features, and small stature are so common that a strong argument can be based on them for the belief in a Negrito race forming the basis of the whole pre-Aryan, or Dravidian as it is generally called, population of the Peninsula."[2] But this wild assertion, it is evident, is only the re-echo of de Quatrefages' opinion.

Again, Man in his book on the Andamanese expresses the opinion that the aborigines of the Andaman Islands are broad-skulled Negrito pygmies, and further he differentiates the Mincopis of the Andaman Islands with the Nicobarese. He says, " While the Andamanese, inspite of their many excellent qualities, must be regarded as one of the most degraded and barbarous races in existence, the Nicobarese, especially of Northern Islands, prove themselves worthy to be ranked almost on terms of equality with their kinsmen inhabiting the Malayan Peninsula."[3]

Later on Martin, in his quest after the Negritos in Malay Peninsula says, " Am nächsten liegt ein Anschluss der ulotrichen Semang an die Negrito der Philippinen und an die Bewohner der Andamanen, auf die ja schon von verschieden Seiten hingewiesen wurde."[4] Thus here he says that the connection between the ulotrichous Semang with the Negrito of the Philippines and

1 J. A. Institute, Vol. 8, 1879, pp. 38-50.
2 Jour. Anth. Inst., 18, 1889, p. 82.
3 E. H. Man, " The Nicobar Islands " in I. A. Inst., London, Vol. 18, 1889.
4 R. Martin, " Die Inland Stämme der Malayischen Halbinsel," 1905, pp. 1032-33.

with the inhabitants of the Andamans is very close. Further he says that the excellent comparative works of Flower, Man and others show that the racial features of the inhabitants of the Andaman Islands, especially that of the South Andamans, agree with the somatic characteristics of the Semang. The hair of the Andamanese is woolly, its cross section long-oval, and colour black. Further, the Andamanese skull is similar to that of the Semang.[1] The cephalic index of the same Semang is given by Martin as male 77·9, female 77·8, *i.e.*, they are mesocephalic. As regards the indices he says that all the inland tribes of the Malay Peninsula are dominantly mesocephalic, and clearly mesorrhiny, occasionally chamoerrhiny, is to be found in the range of individual variations.[2]

Again, G. A. Koetze says, " Die Semangs und Sakais von Malaka sind bestimmt Negroes, ebenso wie Man die Bewohner der Andamanen, die sogennate Mincopis zu den echten Negritos rechnet[3] (The Semangs and Sakais are surely Negroes, while the inhabitants of the Andamans, the so-called Mincopis, are reckoned by Man to be real Negritos.) The stature of these Mincopis as given by Deniker is 148·5 cm., by Hovelacque-Hervé for men 148 cm., for women 140 cm., cephalic index 80-84, length-height index 77·5, Nasal index 49-51, and orbital index 91. So these, according to Koetze, are hypsi-brachycephal, Mesorrhin, hypsikonch.[4]

As regards the physical characters of the Negritos the same author says : " The Negritos are exclusively a brachy-hypsicephal, leptoprosop, mesorrhine (also platyrrhine), mesokonch, woolly hair, short stature, of very dark skin.colour.[5]

As regards their connection with the Melanesians Koetze says, " Wenn Man sie früher mit den Papuas identificiert hat, so ist dies wohl ein offenbar Irrtum, die übereinstimmung bezieht sich

[1] Martin, pp. 1023-26.

[2] *Ibid*, pp. 412-13.

[3] G, A. Koetze, " Crania Ethnica Philippinica." Haarlem, H. Kleinmannt Co, 1901-1904, p. 162.

[4] G. A. Koetze, p. 162.

[5] *Ibid*, pp. 222-232.

auf Aüsserlichkeiten, die genaue Untersuchung der Schädel hat aber ganz andere Resultate geliefert, dann während die Melanesien exquisit dolichokephal sind, sind die Negritos exquisit brachykephal."[1] (If Man formerly has identified them with the Papuans then it is a clear mistake. The similarity exists only outwardly. The exact examination of the skull had given a different result, as the true Melanesians are strongly dolichocephals, the Negritos are brachycephals.)

Deniker likewise counts the Mincopis amongst the Negritos.[2] But he says the Negritos of Asia are mesocephals or sub-brachycephals.[3]

Thus so far about the Negritos outside India. Now the question comes whether there is any Negrito element within India proper ?

Negrito in India.

Already we have mentioned that de Qutrefages, Hamy and others opined about the trace of Negrito element in India proper amongst the Dravidian tribes. But all these opinions are quotations without scientific data borrowed by the one from the other.

But Deniker speaking about the people of South India says, " Certaines de ces tribus offerent un type negritoide, étant noir aux-cheveux tres' frisés, comme par example les Chenchu, les ' yanadi ' de l'isle-Sriharicota. D'autres tribes comme les Kadir ou Kadan des monts Anaamlai offerent un melange de types negritoide et Indonesian...Tchorouma, les Paniyans...sont encore plus petite (pres de 1m. 25 en moyenne) et ont le nez très large et les cheveux trés frisés.[4] [Some of the tribes show a Negroid type, being black with very frizzled hair, as for example the Chenchu, the Yanadi. Besides the tribes as the Kaders show a mixture of Negroid and Indonesian types...the Tcherouma, the Paniyans very small

1 Koetze, pp. 222-32.
2 J. Deniker, " Les Races et les Peuples de la Terre," Edition of 1926, p. 479.
3 J. Deniker, p. 363.
4 *Ibid* p. 498.

(average lm. 25) and have very broad nose and very frizzled hair.] Here is a remark that frizzly-haired broad-nosed peoples are to be found in South India. But the report is too vague to come to any definite conclusion. But Lapicque in 1906 answers this question by saying, "En réalité, il n'éxiste dans ces Montagnes, ni probablement nulle part dans l'Inde, un temoin de la race comparable, commé puretè aux Andamanois ni même au autres Negrito.[1] (In reality, there neither exists in these mountains, nor probably in other parts of India, a primitive race comparable in its purity with the Andamanese nor to the other Negroes). Lapicque says further that the primitive inhabitant was dolichocephalic or subdolichocephalic in head form.[2]

Further A. B. Meyer while discussing the Negrito question in general in his book called "The Distribution of the Negritos in the Philippine Islands and Elsewhere" says, "We have found that all accounts of Negritos outside the Philippines are based on very slender and poor evidence (properly speaking on none at all), or are the result of errors in consequence of insufficient criticism of the sources or misunderstanding of the original statements, which in their turn are frequently unreliable and perverted."[3]

Then he cites Virchow who said in 1843 "that the notices of the occurrence of Negritos beyond the Philippines, Malacca and the Andamans are almost without an exception romantic.[4]

Further Meyer says, "The case of Negritos in Nicobar Islands remained unproven. Negritos exist in Malacca, and in the Andamans."[5] As regards India proper he says,[6] "The statement of the writers on the black races of India are however most

[1] Lapicque, "Les Negres d'Asie, et la race Negre in general," Vol. I, Revue Scientifique, VI. 1906.

[2] Quoted by Thurston, "Castes and Tribes of South India," Vol. I.

[3] A. B. Meyer, "The Distribution of the Negritos in the Philippines Islands and Elsewhere" Dresdae, Stengel & Co., 1899, p. 78.

[4] R. Virchow, "Corres. Blatt. Deutsche Anth," Bds. XXIV, p. 117.

[5] A. A. Meyer, p. 70.

[6] *Ibid.*

contradictory...de Quatrefages and Hamy regard the Negritos as already established in India, but Topinard was of another opinion when he said ' Il n'est pas demontré que les populations noire 'de l'Inde mentionees dans de Mahabarrata fussent negritos.' [1] (It is not proved that the black peoples of India mentioned in Mahabharata were Negritos.)[2] Callamand is still more strongly opposed to Quatrefages and Hamy.

He says, "Ni par la forme crānienne, ni par les cheveux, ni memes par la taille, les noirs dél'Inde ne peuvent être regardés comme les reprásentants de l'antique race négrito qu'une doctrine avanturieuse voudrait considerer comme les veritables aborigines de l'Inde?" [2] (Neither by the cranial form, nor by the hair, nor by stature, the blacks of India could be regarded as the representatives of the primitive Negrito race ; it would be an adventurous doctrine to consider the same as the true aborigines of India.

Again, "Virchow,[3] regarded the proof of the writers of the 'Crania Ethnica' as insufficient and demurs [3] strongly to accepting a true Negrito race as an aboriginal one in India." [4] Thus so far we have quoted the opinions of the noted physical anthropologists and craniologists regarding the trace of the Negrito race in India. Further, the opinions of a few more writers are here quoted before we close this discussion. Long ago I. Crawfurd in an article entitled "Supposed Aborigines of India" published in the "Transactions of the Ethnological Society of London," 1868, said, "It is an opinion, very generally entertained by the Indian ethnologists, that the races which they suppose to be the aborigines of India partake of a Negro character, in contradistinction to the civilised people of most lands ; but this is a notion for which I am satisfied there is no ground whatever." [5] Further an interesting letter written by Mr. V,

[1] Topinard, "Anthropologie," 2nd ed., 1877, p. 516.

[2] Callamand, "Revd. Anthropologie," 2nd Series, 1878, I, p. 524.

[3] Virchow, "Weddas," 1881, p. 127.

[4] A. B. Meyer, p. 70.

[5] I. Crawfurd, "Transactions of the Ethnolog. Soc. of London," Vol. VI, p. 65. New Series, London, John Murray, 1868.

Ball from Dublin, 18th May 1845, to the editor of 'Nature' refuting the opinion of de Quatrèfages and saying how the investigators are misled is quoted here. The letter is capped with the title "Repeated Traces of Negrito Pygmies in India." The writer says, " May I be permitted to suggest to readers of all Quatrefages' work on the Pygmies, the English edition of which has recently been revised in India, to pause before accepting his conclusions as to traces of Negritos being found in peninsular India. The evidence he relies on partly consists of a description by M. Rousselet of a half-starved wanderer from Sirguja whom he assigns to the race Banderlakh (as it is printed in the English edition, Bandreh lokh) and the tribe Djangal. Any Anglo-Indian with the slightest knowledge of the language, not to say of Ethnology, would be amused at such nicknames being given as definite racial terms. The first simply means monkey-people (equivalent to savage), as applied by dwellers in the plains to the wilder inhabitants generally ; and the second, if it can be said to mean anything in the form presented, is simply ' Jangly ' or a dweller in jungle. As I spent some days in the company of the late General Dalton ..in connection with the production of his great work on the Ethnology of Bengal, to which I had the privilege of contributions...I was, moreover, well acquainted with the true Negritos of the Andamans, of whom I had then already seen many, and I do not hesitate to say that I never met with the slightest trace of a Negro element amongst the numerous tribes I am acquainted with during many years' travelling in the hilly tracts of Western Bengal, the Central Provinces and the Northern Provinces of Madras. Individuals belonging to different tribes with curly (not really woolly) hair are occasionally to be seen, but I venture to think that such occasional freaks are casual, and wholly without significance. I shall say no more at present save that the evidence culled by M. Quatrefages out of general Dalton's lithographed groups—out of a girl with her hair cropped short, and another of two somewhat curly-

headed Santals in support of his theory,—is not merely feeble, but is liable to mislead."[1]

Thus the outsiders are often misled, and these misleading reports being oft quoted take the form of scientific facts.

Then we quote another important authority, the Sarasins,[2] who said "Das Fehlen aller ulotrichen formen in Vorder-Indien fällt so schwer ins Gesicht." (The absence of all ulotrichous forms in South India would strike one strongly in the face.) He does not think there is any Negrito element in South India as in the Andamans.

Finally we come to the reports of the modern investigators. Thurston[3] has not mentioned any trace of Negrito or Negroid characteristics in the South-Indian tribes. Dr. E. Von Eickstedt has not reported any trace of Negrito or Negroid characteristics of the same people. But Dr. B. S. Guha[4] is reported to have found frizzly hair amongst the Kaders. Regarding the Kaders he says," he was fortunate enough to find five men and one woman with undoubtedly spirally curved hair, one of whom was pure woolly with short spirals, and the rest were frizzly type similar to that seen among the Melanesians. Besides this spirally curved hair, the Kaders are short, of very dark complexion....prognathic, and have not infrequently receding foreheads." Then he says that these Kaders do not seem to be brachycephalic, as of those 5 men with spirally curved hair "two are mesocephalic" while the rest are in the lower grades of dolichocephaly. It is improbable that the Negrito element among the Kaders was originally brachy- or at least mesocephalic."

Here the description of the Kaders given by Dr. Guha betrays anomalies in the physical traits of the same. The misshapen skull with receding forehead and prognathism may

§ This portion is now within the Province of Behar.

[1] V. Ball in Nature Vol. III, Oct. 1885.

[2] P. & F. Sarasins, "Ergebnisse Naturadissenschaft to isen Forschngenunt Ceylon," p. 315.

[3] E. Thurston, "Casten and Tribes of Southern India," Vol. I, A & B, 919 and 9,

[4] B. S. Guha, "Negrito Racial Strains in India," "Nature" 19 May, 1928.

betray Australoid traits in them, and if they have spirally curved hair then that is a trait of Negroid in them. In that case, the subjects show heterozygotic traits in their features. Guha himself admits of the improbability of a Negrito strain being in them. On the other hand, Eickstedt says, "Inder Tat weisen die Weddiden lockiges Haar auf die malide Untergruppe sogar englockiges Haar. Bei einigen Stämmen, soden Kadr, treten auch gekräuselte Haare bie gleichzeitiger Vergröberung des Typus auf." (In fact the Veddahs exhibit curly hair, and the sub-group really close-curled hair. Some tribes as the Kaders have frizzly hair and of a coarser type.) But as regards the Negrito strain with the Kaders, he further says, " Es ist nich trichtig wenn man die Maliden, wie das oft geschah (Z. B. von Lapicque und Keane), ohne weiteres zu den Negritos stellt, dnpn diese sind zwar recht kleinwuchsig, noch viel klein wuchsiger als die Maliden, sind sehr dunkelhäutig und extrem kraushaarig, aber sieweisen keineswegs die grosse Primitivität der Maliden und deren Eigenmerkmale auf. So dürfte es vorsichtiger und richtiger sein, das Aufgehen einer Proto-negritiden Komponent in der altindischen weddiden Urbevölkerung an zuuehmen. Es liegt also bei den Malidenwie bie den Melaniden-ein besonders typischer Fall weitgehender Harmonisierung rassischer Grund Kompon-nten vor." [2] (It is not proper when the Malides are counted, as it was done by Lapique and Keane, with the Negrito, as these are really Pygmies, much smaller than the Malides, are very dark-skinned and extremely wooly-haired; but they by no means show the great primitivity of the Malides and their characteristics. Therefore it would be more careful and correct to see a proto-Negritide component in the old Indian Veddoid aboriginal population. Also with the Malides and the Melanides an especial typical case of far-reaching harmonising racial basic components is attested.)

Thus the question of a Negritoid strain finally centers round the nature of the hair of the Kaders! Guha has discovered

[1] E. F. von Eickstedt, "Rayscnkunde und Rassengeschichte der Menschheit" Suttgart, 1934, p. 182.

[2] *Ibid*, pp. 182-83.

spirally curved hair in a few Kaders, and Eickstedt says these people have frizzly hair. Guha is doubtful if the original Negrito element among the Kaders was brachy- at least mesocephalic. But we have seen already that the Negrito type is brachycephalic, and according to Deniker at least mesocephalic. But when according to Guha there is no trace of broadening of the skulls of the Kaders, it must be taken for granted that the Negroid element has not entered into the composition of the Kaders. On the other hand Eickstedt vehemently denies the Kaders have Negrito traits in them, as the latter are of different characteristics. Hence he suggests the possibility of a proto-Negrito component entering in the make-up of the Kader tribe. But this only leads us to anthropological obscurantism.

Another alternative may be suggested that, as the archaeologists say, South India was in contact with Africa in ancient times, the proof of which has been found in the traces of Indian civilisation and in the presence of the Indian type of oxen (*Bos indicus*), it would not be impossible that some stray infiltration of African blood might have have taken place in historical period in the tribes living on the seaboard. Anyway Guha's subjects show stray cases amongst the multitude he measured. Is it the atavistic strain from the stray wanderers off the African coast or does it betray the trait of a submerged Negroid race ? The photos of the subjects of a kindred tribe, the Panyans, as shown in the book of Eickstedt, do not show frizzly or spirally curved hair. These people whom Eickstedt has put along with the Kaders as the "Malide" show close curly hair, which is neither woolly nor frizzly. It is strange that a few of the Kaders will only show it.

Anyway, the discussion about the hair of the racial composition of the Kaders is still in the theoretical plane. We do not agree with Dr. Hutton that the finality of the discussion has been reached. The final solution of this much vexed question lies in examining the root of the Kaders' hair in cross

1 *Vide* V. Luschan, "Sprachen Rassen und Völker."

section. Unless and until the cross-section examination of the hair of the Kaders is made, the matter will remain as *sub judice*.

Then, as mentioned beforehand, Dr. Hutton himself has raised the question of the presence of an ulotrichi element amongst the Nagas living in hills beyond Assam in Burma. He says, " Now in Naga Hills specimens of more or less ulotrichous hair are to be seen with some frequency in certain areas." But though this area is a part of the possessions of British Indian Government, it is outside India proper.

After going through the reports, sometimes contradictory, we would say that when discussions and doubts have been raised regarding the presence of woolly or frizzly-haired peoples in British India, the law of Mendelism working in this matter must not be forgotten.

Hair-form is one of the permanent racial traits. It remains constant in a race. And there are different forms of hair showing different racial characteristics. The racial characteristics of hair is the texture and the form of the root that is to be seen in the cross section. Regarding these traits Ripley says : " The two extremes of hair texture in the human species are the crisp curly variety so familiar to us in the African Negro ; and the stiff, wiry, straight hair of the Asiatic and American aboriginals. The traits are persistent ; they persevere oftentimes through generations of ethnic intermixture."[2] Further he says, " The result of such intermixture is to import a more or less wavy appearance to the hair."[3] Thus according to him as a result of cross between woolly hair (crisp curly variety) familiar to all through the Negroid type of men and the stiff and straight hair connected with the East Asiatic or Americans, an intermediate form known as wavy form of hair takes its rise. Again, Gates also corroborates it by saying, " Wavy is regarded as a heterozygote of curly and straight, curly being recessive, but there is no sharp line

1 Hutton, " A Negrito Substratum in the Population of Assam."
—Maxin, Vol. VIII, No. 4, Dec. 1927.

2 Ripley, " Races of Europe, pp. 452-53.

between wavy and curly.[1] Thus it is evident wavy hair is not a primary form. Further Martin says, " ohne Zweifel das ge kräuselte Haar in vielen Fällen keine primare Bildung, sonders aus der Kreuzung eines Krauses mit einem straffen oder welligen Haar hervorgegangen "[2] (Undoubtedly, frizzled hair in many cases is not a primary form, but arises out of crossing between a crisp curly or woolly with a stiff straight or wavy hair). Thus we find both that the wavy and frizzled forms are of secondary character, and these being of heterozygotic character, must split up in F_2 generation according to Mendelian rule and the ancestral traits will come up in some of the offsprings. In this matter Fischer has clearly said, " Die elterlichen charaktare treten welderauf"[3] (the parental characters re-appear again).[4]

This being the latest opinion of Science, it remains to be seen that if the heterozygotic frizzled hair is to be found with the Kaders of South India and with some Nagas of the Assam-Burma Frontier, then according to Mendelian law the homozygotic ancestral character must be there as well. And the discovery of those ancestral elements will give us the real clue to the much debated Negrito or Negroid problem in India! For this reason when the question of the presence of a trace of the Negrito element has been raised it must be thoroughly investigated and settled finally, and until then we cannot accept any opinion; for the outward form is deceptive.

The attempt to find the Negroid element is being followed in other parts of India. The Hos of Kolhan (Chota Nagpur) who are dolichocephalic, with hair wavy to curly, and with slight prognathism, has been called by the reviewer of the "American Journal of Physical Anthropology," Vol. IX, as thus : " It seems

[1] R. R. Gates, " Heredity in Man," p. 315.

[2] R. Martin, " Lehrbuch," Vol. I, p. 214.

[3] Eugen Fischer, " Die Rehobother Bastards," pp. 224, 1913, Jena.

[4] C. B. Davenport, " Race-crossing in Jamaica " Sci Monthly, XXVII, 1928, pp. 225-38; G. C. and C. B. Davenport, " Heredity of Hair-form in Men," "Amer. Nature" XLIII, 1908, pp. 193-211. C. B. Davenport, " The Effects of Race-intermingling." Proc. Amer. Phil. Soc., 1917 f., VI, pp. 364-68.

to the reviewer that here is one of the numbers of small remnants scattered over the more southern parts of India which suggest very strongly Negritoid origin or admixture.[1] Again the same paper speaking about the Birhors says thus : " Among the photographs a number, to the reviewer, suggest a strong remnant or admixture of the Negritoid blood."[2]

Thus the Negrito is being attempted to be found at Central India even. The reason for suspicion is not given. Does the reviewer of the anthropological journal in question think that prognathism coupled with a long skull is enough evidence to name it as " Negritoid ? " The investigators of Mohenjodaro skulls have identified a long-shaped skull with subnasal prognathism which is similar to Adiltanallaur " Proto-australoid " skull. The same opinion is given by Elliot Smith regarding the latter.[3] Here with the Hos, the same characteristics are to be found; hence, will it not be more correct to identify the Hos as an Australoid people rather than a Negritoid one? As regards the Birhors, the cause of remark is not given by the reviewer. Surely wavy or curly hair, prognathism and dolichocephaly cannot be the signs of Negroid characteristics !

As regards prognathism, Brinton[4] has said long ago, that it cannot be a racial characteristic. Prognathism is also to be found amongst the Europeans. Indeed Luschan speaks of two kinds of prognathism that are to be found with the Europeans : (1) " normale geringe prognathie des Europaers, (2) starkere grade von prognathie, die aber auch noch bei Europaen vor-kommen."[5] Further Ranke has said that prognathism is not a sign of lower form.[6]

[1] American Journal of Physical Anthropology, Vol. IX, p. 124 : " Physical Characteristics of the Hos of Kolhan."

[2] *Ibid*, " The Birhors " (by S. C. Roy), p. 124.

[3] Elliot-Smith, " The Evolution of Men."

[4] Brinton, " Races and Men."

[5] Von Luschan, " Andeutung zu wissenschaftlichen Beobachtungen auf der Geschichte der Anthropologie," etc., p. 30.

[6] Quoted by Sarasins, p. 244.

In the same way the Tinnevelly skull examined by Dixon,[1] is said by him to be Negroid. But Eickstedt reports that the Malide branch of his Veddic race show from time to time slight prognathism. Hence the Southern Tinnevelly skull instead of being " Negroid " may be ' Veddoid ! '

Hence prognathism in a skull or in a head of a dark-skinned man does not make him a Negrito or Negroid. We cannot single out one or two characteristics for the identification of a racial type; different characteristics must be combined to establish the type. Regarding this Sergi says, " We cannot accept the evidence of the cephalic index when that evidence is contradicted by other important facts...the character to be selected as the means of classification must be constant...then the other characters may be used to complete the established type ! " For this reason, a stray case of prognathism or other trait in a dark-skinned man is not enough to establish his racial type. It is a strange thing that Eickstedt thinks that the same Hos show the traces of Palaeo-mongolian influence.[2] Thus the different anthropological writers contradict each other. Hence the last alternative left to a student of physical anthropology is to apply the test of finding the cross-section of the hair-root and see its results.

The Veddah Question.

The next is the Veddah or Wedda question. The Veddah question has been investigated ; physical as well as cranio-logical measurements have been taken by some leading scientists of the skulls collected by Hamilton Smith and measured by de Quatrefages and Hamy;[3] the skull indices are 75·90; 77·71 and the nasal index is 46·5. Virchow[4] gives the skull index of the two skulls measured by him as 71·9, Bernard Davis[5] gives the skull

[1] Eickstedt, p. 214.
[2] Dixon, p. 261.
[3] De Quatrefages et Hamy, "Crania Ethnica," pp. 505-06.
[4] R. Virchow, "Die Weddas," 1881.
[5] B. Davids, " Thesarum Cranium,"

index of his eleven skulls as 71·3, Flower[1] gives 71·9 for his eight skulls, and the series of nine skulls collected by A. Thomson at the Oxford University gives the total average index as 76·1.

Then the average cephalic indices of the eight Veddahs measured by Emile Deschamps[2] are 72·31, nasal index 84·18. Then come the measurements on living Indians made by Jagor[3] and worked out by G. Koerbin. The cephalic index of his eight Veddahs is 72·75, and the nasal index is 86·0. Finally come Paul Sarasin and Fritz Sarasin[4] who are the most important authority on the Veddah problem.

The Sarasins have made a thorough investigation of the physical anthropology of the Veddahs and the other races living in Ceylon. The average stature of 71 male Veddahs they give as 1576 mm. The average stature of 28 Veddah females they give as 1473 mm. Then they give the following averages of twenty-one male skulls and eleven female skulls : Length-breadth skull index is 71·6 for male and 71·2 for female. The nasal index for 6 is 52·5 and for eight females is 52·0. Further Haddon gives the skull index of the Veddas to be 70·5, and Martin quotes the figures of the Sarasins. The average of cranial capacity for males is 1294 c.cm. for 1151 c.cm.

Here we see, the Veddah skull on the average is dolichocranial, except the figures given by de Quatrefages and Hamy and Thomson which are mesocranial.[5] As regards the cephalic indices of the living they are dolichocephals. As regards the nasal form it varies between mesorrhinic and chamoerrhinic,

[1] Quoted by Emile Deschamps in his " Les Veddas de Ceylon."

[2] Emile Deschamps. " Les Veddahs de Ceylon" in L'anthropologie, Vol. 2, 1891, pp. 327-330.

[3] Jagor, " Messungen von lebenden Indern," Zeitseprripplicher für Ethnologie, Band XI, 1879.

[4] P. Sarasin and F. Sarasin, " Ergebnisse, Naturwissenschaftlicher Forschungenauf Ceylon," Weissbaden, 1887-1893.

[5] Sarasins criticise Thomson collection as of a mistaken nature. Cranial capacity of his collected skulls does not show true capacity of the Veddahs, skull, pp. 21-22.

and in stature they are small. But regarding stature the Sarasins say they are not the smallest people; they do not deserve the epithet 'Pygmy' that is from time to time applied to them. "Die Weddas lange nicht die kleinsten lebenden Menschen formen sind und den Namen eines Zwergvolkes, der ihnen gelegentlich beilegt wird, nicht eigentlich verdienen."[1]

As regards hair-form he says, it is decidedly wavy[2] (ents chneden wellig zunennen). Thus so far about the Veddahs.

In connection with the Veddahs, the Dravidian question naturally turns up; therefore an enquiry into the physical anthropology of their neighbours must be made and this has been done by the Sarasins. That section of the Dravidians who are the neighbours of the Veddahs are the Tamils. These people dwell both in Ceylon and South India.

Regarding the Tamils the Sarasins say the hair of the Tamil is not different from that of the Veddahs, it is also wavy; on the average it is a little rough and shows more tendency to be curly than the Veddah-hair.[3] The hair of the Singhalese is also wavy. Their growth of beard is more plentiful than that of the Veddahs and Tamils.[4] The eagle nose (Adlernase) of many Singhalese is a striking characteristic of this variety.[5] In connection with the features of the Singhalese, the Sarasins and A. N. Ferguson speak of their physical similarity with the Bengalees of to-day.[6] Then he says the Singhalese on the average are lighter-complexioned than the Tamils.

Further, the Sarasins speak of the absence of ulotrichi form in South India (Vorder-Indien).[7] As regards the comparative study of these three types, the Sarasins quote the investigation of Virchow and says, "Virchow glaubte, zwischen den drei ceylonischen varietaten einen Unterschied am Aufbau der Schadel Capsel

[1] Sarasins, p. 89.
[2] Sarasins, p. 97.
[3] Sarasins, p. 122.
[4] P. 87.
[5] The reader should remember the remark of the Chinese traveller Fahien in ancient times in the matter of this characteristic.
[6] 128. f, p. 34 f.
[7] P. 81.

in so foern constatieren zukönnen, als di drei Knochen : Stirn bein, Scheitelbein und Hinterhauptbein sich in ungleichen Masse an der Bildung der sagittal curve betheiligen sollen." (Virchow believed that between the three Ceylonese varieties, a difference of structure of the skull capsule can be proved so far that the three bones—frontal bone, parietal bone and the occipital bone—take irregular part in the building of sagittal curve.) [1] Further, Virchow says that the occiput is strongly developed with the Singhalese and Veddahs.[2]

In conclusion, in giving their views they say that the Tamils on the average are more related to the Veddahs than the Singhalese and think that the great mass of the Dravidians can be regarded as the direct steps of further evolution of the Veddah form, and in addition to it the Aryan element has been mixed in the higher castes. (Wir sind daher der Ansicht, dass die Tamilen durch schnittlich naher mit den Weddas verwandt seien als die Singhalese und glauben, dass die grosse menge der Dravider direct als weitere Entwicklung stufen weddaischer formen angesehen werden durfen wo zu dann, und zwar vornehmlich in den hoeheren kasten, noch ausserindische, vornehmlich arische Elemente hinzu käme.)[3] On the other hand as the Singhalese, on account of their difference of characteristics in superior numbers with the Veddahs, stand in more distant relation to them than the Tamils, therefore the Sarasins think the Singhalese have taken Aryan blood in larger quantity than the Tamils.[4] Further, they think the difference between the Singhalese and the Tamils lies in the difference of percentage of mixture of Aryan blood in them.[5]

Again they say on this account it can be taken with certitude that the tribes corresponding to the Veddahs that can be found in many places in South India (Vorder Indien) are the same which are to be regarded as the remnants of an old population, which perhaps spread itself over the whole of India in ancient times.

[1] See also Virchow's " Die Weddas."
[2] " Die Weddas."
[3], [4] and [5] Sarasins, pp. 350-35.

They further say, that their comparative examination of the Veddahs and Tamils show that it would not be right to put these small-statured tribes together with the Dravidian population; they represent the remnant of a pre-Dravidian period, and in order to give a definite nomenclature they have given the name "Veddaish" to all these tribes. (Dass es unrichtig sei, diese kleinwuchsigen staemme...mit der dravidischen Bevoelkerung zusammen zu werfen, sie stellen vielmehr die Reste einer vordravidischen Zeit dar, alle diese Stamme unter dem Namen der weddaischen zusammen fassen.) [1]

They further say though the differences between the Veddahs and the Tamils are so clear that they can be expressed in figures, yet they are not of such sort that it is necessary to make a principal difference between both these forms. It can be accepted that in favourably situated coastal regions or in fruitful plains higher-statured tribes can develop themselves out of small hunting tribes. On this account they report that they see the Dravidians mainly as a locally originated evolution stage of the Veddaish form (wir wiede holen es also, dass weidie Dravider in der Hauptsache für eine in loco entstandedene Entwicklungstufe weddaisherformen ansehen).[2]

Thus instead of mystifying about the pre-Dravidians or the pre-Dravidian period, the Sarasins clearly say the pre-Dravidian period is *Veddaish* period. On this point, they further clearly say, that up to now they, according to their view, have made a difference between a *Veddaish* or pre-Dravidian epoch, the remnants of which are to be seen in the Veddahs and their relatives, and a *Dravido-Australian* period [3] which to-day is represented by a large mass of Dravidian and partially also Kolarian-speaking tribes. The typical examples of this Dravido-Australian forms are the lower castes (Am typischsten finder wir

[1] P. 354.

[2] Sarasins, pp. 356-57.

[3] The Sarasins accepted Caldwell's theory of the common origin of Dravidian and Australian languages, hence it seems the common period is contemplated.

diese Dravido-australischen Fórmen in den tieferen kasten reprasentiert).[1] This is of course excepting the Veddaish element which also partially form the lower castes. Thus the higher we go in the castes of the Dravidian-speaking population, the more other influences are to be met with.[2]

This, the Sarasins say, brings us to the third period, that of the *Aryan invasion*. The Aryans, according to them, have developed out of the Dravido-Australian tribes. These last, according to them, had a big distribution. As they could make an advance in distant Australia, so they occupied a big part of the ancient world. And according to their hypothesis, somewhere in this region, light-skinned Aryans have developed out of these tribes. Later, a backward wave of a part of these physically and spiritually higher developed men made them come back to India. These are the Aryans. They met the ancient tribal comrades who are separated from them by remaining in a lower stage of development, and now began that fight which resulted in the distribution of the tribes in South India and in the caste system. (Die Arier aus dravido-australischen stämme sich entwickelt haben. So gut sie nach dem fernen Australien einen vorstoss machen konnten, werden sie wohl auch einen grossen Theil der alten Welt in Besitz genommen haben. Nun möchten wir glauben, dass in irgend einem Gebiete aus solchen Stämmen die hellhäutigen Arier entstanden, und dass denn eine zurückflutende welle einen Theil dieser körperlich und geistig höher entwickelten Mänschen nach Indien zuruckführte. Dieses trafen sie van ihren auf niederer stufe zurüukgebliebenen, uralten Stammes genossen bevolkert, und nun entstand jener kampf, auf dessen Ergebniss die heutige völkerverteilung vorder indiens und das kasten system anzusehen sind.)[3]

Finally they say, that all the tribes living in South India, *viz.*, the Veddahs, the Dravido-Australians and the Aryans, also

[1] Sarasins, pp. 362-64.
[2] *Ibid*, pp. 362-64.
[3] *Ibid*, pp. 362-64.

all the peoples living in West Asia, North Africa and Europe, in spite of their different speeches, possess a close relationship to each other and build a great family of peoples—the *cymotrichi* or *wavy-haired* variety of mankind.[1] Therefore they opine that the Veddaish and the Dravido-Australian tribes represent the ancestral forms of the abovementioned peoples. (Dabei nehmen wir an, dass die Weddaishen und australischen stämme vorfahren formen der genannten völker darstellen.) In this connection they further say, that if a reference be made to their Veddah and Tamil tables, it will be found out, that inspite of many strange appearances, a certain similarity with the Europeans is not to be denied ; in many Veddah faces European expression is to be met with. Thus they see in Veddaish tribes of South India the ancestral type of the whole family of cymotrichi groups (wir sehen in den weddaishe Stämmen vorderasiens die stamm formen der gesamten cymotrichen Völkerfamilie).[2]

We have dwelt long on the hypothesis of the Sarasins because many of the important German anthropologists have agreed with them and have built their systems on the basis of this Veddaish race. Here the things clearly to be discerned are : (1) there is no Negrito element in South India, (2) there is no separate Dravidian race migrating from outside, (3) the Aryans have evolved from the Dravido-Australian tribes which in turn have evolved from the Veddaish type, the Indo-Aryan invasion is the return of the newly-evolved light-skinned variety of mankind, (5) the common origin of all these types are to be seen in the similarity of hair form which is cymotrichous.

On the basis of this original unity, Von Luschan built his "From Gibraltar to Australia" line of migration of the palaeolithic man, and saw in India the bridge between Australia and Palaeolithic North Europe. Gustaf Fritsch saw in the Veddahs the Urrasse (primitive racial type) of India which in Fritsch-Stratz nomenclature was called as the "Protomorphic" [3] type of

[1] Sarasins, pp. 362-64. [2] Sarasins, p. 364.

[3] *Vide* G. Fritsch's " Travels in South Asia and Australia."

Asia. Lately Von Eickstedt has found in the Veddahs the most primitive strain which is divided into two groups as the Gondiden and the Maliden.[1] According to him, the "Veddide" Race extends to Central India and beyond it. He says the Oraon (Kurukh) and Khand (Kuli) belong to the Gondide branch of the Veddide.[2]

But some criticisms have been made on the hypothesis of the Sarasins. Virchow did not see any similarity between the Veddah and Australian skulls. William Turner did not see any similarity between the Australian and the Dravidian skulls. Emil Schmidt, as said already, did not see any similarity between the two.[3]

Again Callamand has expressed himself decidedly against such a similarity and exclaims "qelle distance du noir de du' Inde a' l'Australian."[4] So we are again here in a labyrinth! But two salient facts stand out conspicuously that in spite of the differences of the languages of all these races, they are all long-skulled and cymotrichous. Perhaps this much can be accepted that they are descended from the palaeolithic long-skulled race.

The Dravidian Question.

We have already seen that in connection with the Veddah question the Dravidian question turns up. It is said that the so-called "Dravidian race" is a discovery of Bishop Caldwell. As early as A.D. 1875 in his book on "A Comparative Grammar of the Dravidian or South Indian Family of Languages" Caldwell has said: "The essential unity of all the Dravidian dialects argues the unity of the race, inclusive of the lower castes on the whole. Therefore, the supposition that the lower

1 Von Eickstedt, "Rassenkunde und Rassengeschichte der Mnechheit," p. 184, 1933.

2 Wirchow, "Die Wedden Von Ceylon und ihre Bezishiehugen Zu den Nachbar-Stämmen," Abh kgl. Akol wissan de Berlin, 1887, Abh., p. 143.

3 Sir A. W. Turner, "Contributions to the Craniology of the People of the Empire of India," Pt. II, 1900, pp. xxxiv-xxxl.

4 Callamand in "Revue d' anthropologic," 2nd series, 1878, I, p. 625.

castes in the Dravidian provinces belong to a different race from the higher seems to be untenable. It seems safer to hold that all the indigeneous tribes who were found by the Aryans in Southern India belonged substantially to one and the same race." [1]

As regards the physical type of the Dravidian he said, "South Indian is an Aryan in looks and rivals the Aryans in culture. It is only in his speech that he shows himself a member of the same race as the Gonds and a non-Aryan.[2] Here it should also be noted that as regards language Caldwell has said, " The dialects of Australia resemble the Dravidian."[3] This hypothesis of Caldwell gave Sarasin further proof of his hypothesis of common origin of the Dravidians and the Australians.[4]

Further he said : " The high-caste Dravidians form at least four-fifths of the entire population of Southern India. Small bodies of men belonging to the Aryan or North Indian race might have migrated to the south and amalgamated with the Dravidian tribes...without any record of their migration surviving except perhaps in the lighter complexion of their descendants...Castes that have really a northern origin, as the Brahmans and a few offshoots of the Rajputs, are always recognized as such by the caste names they retain...It may be fairly concluded that the great bulk of the population was even then *Dravidian*, not Aryans.[5]

Thus, he said, the great bulk of the population is substantially Dravidian. But this was before the days of the study of South Indian physical anthropology. Since then investigations are taking place. Huxley and Flower have classed the so-called

[1] R. Caldwell, "A Comparative Grammar of the Dravidian or South Indian Family of Languages," 1875, pp. 553-54.

[2] R. Caldwell, "A Comparative Grammar of the Dravidian or South Indian Family of Languages," 1875, p. 572.

[3] R. Caldwell, "A Comparative Grammar of the Dravidian or South Indian Family of Languages," 1875, pp. 79-80.

[4] *Vide* Sarasin.

[5] Caldwell, pp. 558-79.

Dravidians as belonging to the Mediterranean race. On the other hand, as has been said before, Topinard has accepted a relationship between the Dravidians and the Australians, but Callamand, Emil Schmidt and Turner have expressed themselves decidedly against it. But just the same a Dravidian race has been created, and since Caldwell many attempts have been made to find affinities of the Dravidian languages either with the Turkish group of languages (old nomenclature Turanian) or with the Caucasic languages,[1] or even with the ancient Etruscan[2] language! Finally comes the Linguistic Survey of India edited by G. A. Grierson. It says; "With regard to the Dravidian languages the attempt to connect them with other linguistic families outside India is now generally recognised as a failure, and we must still consider them as an isolated family."[3] Thus attempts to connect the Dravidian languages to an outside family of languages have failed. But the question of the so-called Dravidian race is not settled thereby.

It has been said before that some of the German anthropologists deny the existence of a distinct Dravidian race. They think the Veddoid race, by receiving the blood of the Northern Indian immigrants, have introduced new racial elements amongst itself which go to show the difference between the lower castes and the upper castes. Regarding the infiltration of the North Indians which is to be found in the literature of the South, Mr. S. K. Aiyangar says: "The history of South India.. begins with the coming of the Aryans in the South...The coming of the Aryans therefore would be the coming of the Brahman as a settler in this remote and sequestered region of India...In early

[1] Schuener, "Alt Dravidisches :Eine Namenkundliche untersuchung;" G. W. Brown, in J. Amer. Oriental Soc., 50, 273.

[2] Sten Konow, "Etruscan and Dravidian," J. R. A. S., New Series, 1904, Vol. 36, pp. 49-50.

[3] "Linguistic Survey of India," Vol. IV, "Munda and Dravidian Languages," 1906.

Tamil literature...it means the northerner, with the northern culture." [1] The Vedas mentioned a class of peoples who on account of their anti-social acts used to run away to Dakshinapath (South). The Puranas are full of the stories of the settlements of the North Indians in the South and Pargiter gives a list of dynasties of those Brahmans (Brahma-rakshasas) who used to be the family priests of the southern peoples who in the Brahminical traditions have been named as "Rakshasas, Daityas" [2] etc.! Pargiter says, "the epithet of cruel Brahma-Rakshasas, was given to the Agastyas and Vaisvamitras because they were descended from the Brahmans who had allied themselves with Rakshasas." [3]

In any case the infiltration of the North-Indian element or elements in South India cannot be denied. This phenomenon may have made a difference in South Indian anthropology. Now let us see what the present-day investigators speak of this anthropology. The most important of the investigators so far is Mr. Thurston. In his anthropology of the Badagas and Irulas of the Nilgiri [4] he gives the cephalic and nasal indices average of nineteen tribes and castes extending from the Brahmans to the Nilgiri hill tribes. The range of variation of his cephalic indices is from 77·7 (Badagas) to 77·5 (Koramas), *i.e.*, from dolichocephalic to mesocephalic both are to be found here. The nasal indices range from 69·1 (Lambodis) to 95·1 (Paniyans), *i.e.* from leptorrhine to chamoerrhine all varieties are to be found amongst these subjects. As regards the nasal index Thurston's Lambadis, a non-Brahman caste, are leptorrhines while the Pattar Brahmans and those of the Madras city are mesorrhines (76·5-76·7), and the Paniyans, another non-Brahman caste, are chamoerrhines. In his other book entitled "Castes and Tribes of Southern India" he mentions that brachycephaly is to be met with in South India.

1 S. K. Aiyangar, "Some Contributions of South India to Indian Culture," p. 1.
2 F. E. Pargiter, "Ancient Indian Historical Tradition," pp. 241-42.
3 *Ibid.*
4 Thurston, "Madras Government Museum Bulletin," Vol. II, No. I, pp. 62-64.

Lastly, we come to Haddon who says : " The Dravidians are usually confounded with the Pre-dravidians. The name is..... employed to include peoples speaking Tamils, Malayalam, Canarese, Telugu and kindred languages....Apart from language there is a general culture which is characteristic of these peoples, and after the elimination of the Pre-dravidians a racial type emerges with finer features than those of the aborigines and the conclusion seems evident that this was due to an immigrant people who reached India before 2000 B.C." [1]

But the question that arises here is whether the finer features are not due to the infiltration of the North Indian elements. What necessity is there to import immigrants from outside India in order to explain these finer features, when the finer-featured elements are to be found in the north ? This supposed immigrant people is named as the " Dravidians." Further, he says, "Speaking generally, certain groups in, and the higher castes of, South India exhibit what are taken to be the original Dravidian characters ; the lowest castes and the outcastes are predominantly Pre-dravidian and the intermediate castes show various degrees of mixture.[2]

But here we beg to say that Risley has spoken of the Tamil Brahmans as a mixed caste, and they on the average given by Thurston are mesocephal-mesorrhines. All the castes (twenty) mentioned in Thurston's Bulletin, Vol. II, No. I, pp. 51-52, are dolichocephals with the exception of the Sheikh Muhammadans, Brahmans of Madras city, Kanarese Pariahs, Kongas and the Koramas, who are mesocephals (called by him as subdolichocephals, using Broca's nomenclature). In this list of Mesocephaly the Brahmans, the lower castes and the outcastes are ranked together. Indeed the Pariahs (76·8), the Kongas (77·0), the Koramas (77·5) are comparatively more broad-skulled than the Brahmans (76·5). In nasal index of the Lambadis

[1] Haddon, pp. 107-111.
[2] Haddon, pp. 107-111.

belonging to a non-Brahman caste are the only leptorrhinian in the whole list, and the Kanarese Pariahs (75·9) are comparatively narrow-nosed than the Brahmans of Madras city (76·7)! Thus, here, neither can we accept Risley's dictum that the lower is the nasal index the higher is the status of the caste, nor can we accept Haddon's theory that after the elimination of the Pre-dravidians a racial type emerges with finer features than those of the aborigines. We have seen that the higher castes do not stand in superior position to the lower castes, hence by eliminating the chamoerrhins, if any one puts the mesorrhins and leptorrhins together and say here is a different racial element, then that artificiality will manufacture a study-room "race" without any data based on reality.

In this way, we don't see the data of the presence of a separate race named "Dravidian" who are now-a-days classed as the Mediterraneans. Thus Haddon says,[1] "Apart from the dark colour of the skin there are many points of resemblance between the Dravidians and Mediterranean peoples which point to an ancient connection between the two, perhaps due to a common origin.[2] Further, the Telugus, a Dravidian-speaking people, are mentioned by the Census reporter thus: "The Telugus, perhaps are the purest Mediterranean stock in India." Here a Dravidian-speaking people is clearly identified with the Mediterraneans. Here is a big assertion. Telugu is a language, and it is spoken by various castes with diverse features. Thus we are at a loss to understand who the Dravidians in South India are as there are peoples with various physical characteristics mixed up pell-mell together! So, we are driven back to Caldwell and to the Sarasin brothers, Emil Schmidt and others. In this matter also we are in a labyrinth!

To us Dravidian is essentially a language group. The different elements that are to be met with in South India, exist

[1] Haddon, pp. 107-11. [2] Haddon, pp. 107-11.

in other parts of India as well. But in those parts they speak other languages than Dravidian.[1]

Giuffrida-Ruggeri following Sergi sees close affinity of the Dravidians with the Ethiopians and he calls them. *Hómo Indo-africanus Dravidicus*, as in Kotas, Badagas, Kurubas. But he holds that " they have really been a small number of invaders who have intruoduced their languages, and that not everywhere, since in the Munda-Kol zone more ancient languages have been preserved." [2]

Dolichoid-mesorrhin element is met with amongst the Veddah, the South-Indian castes and tribes and in other parts of India. Leptorrhiny is also to be met with on both sides of the Vindhya range. Hence to separate them and to create new races based on the divisions of nomenclatures is misleading. For this reason, we are driven to the conclusion that the theory of a " Dravidian" race is a myth. Lately, Von Eickstedt says that the nomenclature " Dravidian race " is an erroneous designation (irrtümrende Bezcheichnung), it must be dropped at once (ganzfortgelassen werden).[3]

Mediterranean Question.

Thus we see, the existence of a Dravidian race is untenable. But the dolichoid-mesorrhin element does exist in India. We have said before that this biotype is dominant in India. Is this the element that is becoming the fashion to call as " Mediteranean " in India ? The prehistoric dolichocranial skulls found at Nal, at Bayana, and at Sialkot are now-a-days being linked with the skulls of similar indices found at Mesopotamia. Regarding

1 *Vide* in this connection the remark of George Campbell in his " Ethnology of India " who said it is the language that changes, not the people while going from north to the south.

2 V. Giuffrida-Ruggeri, " The First Outlines a Systematic Anthropology of Asia " (Tr. Chakladar) C. U Journ. Letters. Vol. V, 1921, p. 58.

3 Von. Eickstedt, *op. cit.*, p. 154.

the ancient skulls found at Kish, Buxton reports[1] that the Kish type A belongs to Eur-African type. The second type B "in many ways recall the type that we call Mediteranean." Thus what was long suspected by some has turned out to be the fact, that the basic race of Mesopotamia belonged to the Mediterranean group. And as regards India, the abovementioned writer says, "The basal population of India is as at Kish entirely long-headed, although there is certainly more than one group of long-heads. On the top of this basal population we have an admixture of roundheads as we have at Kish." Further, he accepts the division made in South India by Risley, *viz.*, Pre-dravidian and Dravidian, but "as these terms are unsatisfactory" he suggests the name Chersiots, (mainlanders) for the narrower-nosed peoples. His Chersiots then must be old Dravidians as he divides the Indian population into : (1) broad-nosed Proto-Indians (2) narrow nosed Chersiots and the tall narrow-nosed Indo-Afghans." All these he says belong to the dolichocephalic group of curly-haired peoples. Thus, in this matter, we come back to the Sarasins again! As regards the "Proto-Indians," whom he classes as Australoids, they are not to be found at Kish, but he reminds us that Huxley believed that traces of the Australoid type is to be found in Egypt as well.

In resumé, he says : "This stratum is in some places overlain by a second stratum. This second stratum is represented by a series of long-headed peoples, usually of small stature and narrow nose. These people extend from the Mediterranean to India...On the other hand there does seem to be an essential similarity between the Chersiots and the people of Mesopotamia. There is a very marked difference in skin-colour, possibly due to environmental conditions, but as yet not fully explained."[2] But Buxton

[1] Dudley Buxton and Talbot Rice, "Report on the Human Remains found at Kish" in J. R. A. Inst. of G. B. and Ireland, Vol. LXI, 1931. pp. 69-91.

[2] If Persia and Beluchistan be the overland route to India from Mesopotamia then an enquiry into the anthropology of Persia collected by Daniloff will show that the Persians on the average are dolichoid-mesorrhines and of stature above medium size; as regards the

forgets that the " Dravidians are of average stature, and if his Chersiots have connection with the second-stratum race then how can this characteristic of the " Dravidians fit in his system?

Here we see, the former Dravidians have been christened Chersiots here and are classed as Mediterraneans because the Chersiots have Mesopotamian affinities. Thus it is clear to us that the old ' Dravidians ' are the present-day " Mediterraneans of India." But in all these attempts to identify the so-called Dravidians with Sergi's "Mediterraneans" no comparative craniological studies have been made as yet. Can the comparative studies of some ancient skulls of the Mesopotamian and Indus valleys justify the racial affinities of present-day peoples of both the places? The similarity of nasal and cephalic indices do not prove much, and Sergi himself has said, " We cannot accept evidence of cephalic index when that evidence is contradicted the by other important factors." [1] For this reason if the so-called Dravidians = Chersiots = Mediterraneans = Mesopotamians = Eur-african variety of humanity do exist in India then the other characteristics must be identified as well. Buxton himself admits the marked difference in skin-colour, and what is there about other characteristics besides similarity of head and nasal indices ?

As regards the Mediterraneans, they are characterised by Sergi thus : " of brown white variety, neither white nor negroid, but

tribes of Beluchistan, by making an analysis of Risley's data, I have shown that the Baloches of Murri and Bugti Hills are dolichoid-leptorrhines and of stature above average, the Pani Pathans are of the same characteristics, the Wanechi Pathans are dolichoid-leptorrhines, the Dehwaris (Iranians?) are brachycephal-mesorrhines, the Brahuis of Sarawan are brachycephal-mesorrhines, the Brahui-kalandrani are brachycephal-leptorrhines, the Jats of Sibi are brachycephal-leptorrhines, the Mir Jats are brachycephal-leptorrhines, and the Lasi group (Chutta, Sangur, Bandija) of Indian origin is predominantly brachycephal-leptorrhines.

Thus in Persia and in Beluchistan where dolichoid-leptorrhines and dolichoid-mesorrhines are present, peoples on the average are of medium size and of above the medium-sized stature. Moreover, brachycephal-leptorrhines are strongly represented. But nowhere in this stretch of overland route to India, the remnant of a long-headed and short-statured people have been discovered. So we are in the dark regarding the route of this race of second stratum.

[1] Sergi, pp. 199-200.

pure in the elements, body is well formed and proportioned, of medium stature (1·60 m.—1·70), nose is either leptorrhin or mesorrhin, the face of oval and ellipsoid contour then the cranial forms will fall into four characteristics, each with a series of variations."[1] Thus it is clear, if we are to identify a race as belonging to the Mediterranean group then it must follow the canons laid down by Sergi. Do the Chersiots of Buxton fit with the canons of Sergi? Again, which are Buxton's long-headed peoples—usually of small stature and narrower nose—in India? Lately, von Eickstedt speaks of the Indians as Eastern Mediterraneans.[2]

It seems the term "Mediterranean" is being glibly used in India. We must make a thorough comparative study before we apply a well defined term to a known group of people. It is not yet the time to use it unreservedly in India. Rather we would say that dolichoid-mesorrhin, and dolichoid-leptorrhin biotypes are to be found in India, and they have affinities in the countries lying beyond the western border of India. Also in the Mediterranean basin the dolichoid-mesorrhin element is to be found as well. But to identify all of them with Sergi's small-statured (Pygmy) Mediterraneans on the strength of identity of some head-indices seems to us to go beyond the mark.

Also the designation of Eastern Mediterranean does not mean much. We do not get a clear idea of its characteristics. A vague word gives the same ambiguity as before!

[1] Sergi, pp. 252-257.

[2] Recently Eickstedt has coined new nomenclature regarding the Indians. As has been said before, he objects to the term "Dravidian," and speaks of East Mediterranean (ost mediterraniden) or better Indian (Indiden) race. This 'Indiden' he again divides into (1) North Indians (Nordindiden) and (2) real Indians (eigentlichen oder grazil Indiden) of Doab, Hindustan, Deccan. Then he speaks of the Veddiden (Gondiden and Maliden), and again of Melaniden or Indo-melanoid race. These are of deep dark brown skin-colour. In other characteristics they are "Europid." These group types are to be found amongst the Tamils and different aboriginal tribes of Behar and Orissa.

Amenoid Question.

It is a recent discovery in Indian anthropology that affinities of *Homo Alpinus* is to be found in India. Since Ujfalvy measured the Galtchas [1] and Lappouge found in the brachycephal-leptorrhins of the Pamirs the affinities of the *Homo Alpinus* of Europe, it has clearly been proved that this biotype is to be found in strong numbers in western Asia. And as the majority of the Armenians are of these characteristics, von Luschan has named the Asiatic affinities of the Alpine race as "Armenoid." [2] The same Alpine race both in Europe and in Asia has been named by Sergi as the "Eurasiatic species" with definite skull-forms, and not reducible to Eurafrican forms.[3] He supposes it to have its cradle in Asia.

The credit of the discovery of this biotype in India is due to Rai Bahadur Ramaprasad Chanda who first pointed out that brachycephaly of some of the Indians mentioned by Risley is not due to Mongolian blood but due to the presence of the Alpine element in India.[4] Since then the existence of this biotype has been accepted by the investigators.

Since the relics of the Indus Valley civilization has been discovered at Mohenjodaro and at Harappa, a new light has been thrown on the Indian anthropology. In the skulls found at those places Drs. Sewell and Guha have discovered the Alpine type.[5] As according to Sir John Marshall the Indus Valley civilization preceded the Vedic age,[6] the presence of the Alpines in India before the advent of the Indo-Aryans is tentatively accepted by the savants. But it is a big question. Sergi thinks the

[1] C. E. De Ujfalvy, "Le Kohistan, Le Ferghannah kouldja," Paris, 1878; "Les Aryens adu nord et ausud del' Hindoukouch," 1806, p. 25.

[2] Von Luschan, "Races of Western Asia," Huxley Memorial Lectures.

[3] Sergi, "The Mediterranean Race," pp. 262-65.

[4] R. C. Chanda, "Indo-Aryans."

[5] Sir J. Marshall, "Mahenjo-daro and Indus Valley Civilization," p. 92.

[6] *Ibid*, p. 122.

Eurasiatic Alpines were the carriers of Indo-European languages in Europe, as he said, "I am convinced that this Eurasiatic species has yielded those population called Aryans,"[1] and the great historian Edward Meyer said, "the Aryan tribes observed the cremation system, and this system slowly came into Europe in the Bronze period." It can be accepted that perhaps the system was introduced by the Indo-Germans in Europe. The migration of the Scythian, Sarmatian, and Iranian tribes had been from the east to the west. This does not speak in favour of a European home of the Aryans and hence of the Indo-Germans. There are also proofs which show that the Aryans did not originate directly in Europe.[2] Then speaking about the then newly discovered language of the Yue-chi, which belonged to the Centum-group (west-European) of Indo-European languages, he further said, "Vielmehr hat die alteste Hypothesis, welche die Indo-Germanen aus Asien kommen lässt, durch diese Entdeckung von neuem be deutend an Gewicht gewonnen" (With this discovery, the old hypothesis which spoke of the Indo-Germans coming out of Asia, got more weight).[3]

Again, Feist speaking from the philological standpoint says, "The cradle of the Indo-Germans is to be sought in central or west Asia (vorder-asia).[4] Thus the question is not yet settled about the original carriers of the Indo-European or Aryan language; it is yet a debatable question whether the broad-skulled leptorrhins of Asia or the long-skulled-leptorrhins of north Europe were the original speakers of the Indo-Germanic language. Here in the Indus valley a broad-skulled-leptorrhin element has been found which the investigators speak of having affinities with the so-called Alpine race. And the same element is to be found in present-day India.

1 Sergi, pp. 262-65.

2 E Meyer, "Geschischte des Alterrums," pp. 861-90.

3 E. Meyer, "Geschischte des Altertums," p. 893.

4 S. Feist, "Indo-Germanen und Germanen," p. 109, Halle, verlag von Max Niemeyer, 1924.

Naturally, it should be accepted that the brachycephalic-leptorrhin biotype is not a stranger in India. But we see that one of the investigators of the Indus Valley skull divides the Alpine race into an original one and the "Armenoid" subdivision of it. The investigators of the Mohenjodaro skulls, speaking about their type No. IV, say, "It seems probable that all four skulls of this group belonged to the Alpine race, but beyond this it is impossible to go, and we are not in a position to determine to which branch of the Alpines they may have belonged." Thus the presence of the "Alpine" race in Mohenjodaro is a probability with the investigators. This probability of theirs is based on the following grounds. Skull No. 14 belonging to a child is brachycephalic ; the only skull on which "they have been able to take definite measurements" is No. 8, and "even in this case the skull was badly damaged." "No. 13 is the skull of a female, which lay close to No. 14, the brachycephalic child ; this skull was very badly damaged and they say, "so far as we could judge, the skull must have been at least mesocranial, and may have been brachycranial, though not so markedly so as skull No. 14....skull No. 20...when it was removed for examination was in a bad, very bad state of preservation. ..As a result, it is impossible to arrive at any definite conclusion regarding the original shape of the skull, but we are of opinion that it was in all probability brachycranial."

Thus it seems, the theory of an Alpine type in the Mohenjodaro remains, is based only on probability. The only skull on which they say they have been able to take definite measurements is No. 8. But that skull according to their investigation " has undergone considerable warping and damage....The frontal region near the upper and inner angle of the left orbit has been forced outwards and the glabella has also been driven outwards... The posterior region of the skull has been badly broken....From this it will be clear that it is not possible to arrive at any very definite conclusion regarding the racial affinities of the individual to whom it belonged." As regards the skull No. 20, the whole

of the left side of the skull, excepting the mastoid and the frontal region is absent...the whole of the parietal and most of the supra-occipital regions are missing."

This is the data on which the probability of the existence of the Alpine race in Indus Valley is built up, and to the laymen it has become an established truth ! But the following facts strike in the mind of the student of anthropology : (1) How can the cephalic measurements of the skull of a child be used at all as evidence, as the skull of a child is subject to further growth.[1] Of course the investigators do not lay any stress on it. (2) Skull No. 8 is so badly broken that maximum length cannot be taken. Yet it is the only skull on which the investigators have been able to take definite measurements. (3) Skull No. 13 was very badly damaged and the investigators only opined that it must have been at least mesocranial and may have been brachycranial, though not so marked as skull No. 14 which was of a child ! It seems this judgment is based on the supposition that the individual of this skull who was a female was the mother of No. 14. Hence "it is to be expected that the child would exhibit a greater degree of brachycephaly." So, here is only a supposition based on no concrete fact. (4) As regards skull No. 20, apart from other missing parts, most of the supra-occipital region is missing. It seems the measurement has been taken from the reconstructed skull as it is evident in the photo given in the report. But, when most of the supra-occipital region is missing how can the measurement of the maximum length be taken, and when it is taken on a reconstructed substitute, how can that measurement be taken as valid to establish any theory ?

It seems to us, that in order to be scientifically accurate these measurements could not be used as proper data. There may be supposition and probability, but we see there is no accurate scientific data to justify the statement that the Alpine racial type was present in the Indus civilization of Mohenjodaro period.

1 Martin, " Lehrbuch der Anthropologie." Vol. II, p. 700.

Mr. A. K. Sur, while criticising the conclusions arrived at by Drs. Sewell and Guha in his article entitled " Who were the Authors of Mohenjodaro Culture ? " in " Indian Culture," Vol. 3, 1933, says : " We have very meagre or practically no conclusive evidence for inferring a Mongoloid non-Alpine type at Mohenjodaro." As regards the other two types he agrees with Dorothy Mackay (Annual Report of the Smithsonian Inst., 1932, p. 436).

Marshall describing the report of the investigators of the Indus Valley skulls says : "Of the fourth, the Alpine type, there is only one specimen, namely the skull of a child, but though this is the only skull which is unquestionably brachycranial, Sewell and Guha consider it probable that three other specimens may belong to the Alpine group." [1] Then he further says, " The same remark applies also to the skulls from Harappa...In Sewell's opinion they correspond with the brachycephalic type from Kish and belong to the Alpine race, possibly to the Armenoid subdivision of it." [2]

Here, we get a new term ' the Armenoid subdivision of the Alpine race.' Indeed Dr. Buxton, the investigator of the Kish skulls, speaks of the third type with a flattened back as belonging to the ' Armenoid race.' [3] Again the Indian Census reporter of 1931 says, " The Eurasiatic Alpine type however is not responsible for non-Mongolian brachycephaly in India. The Armenoid type of head, characterized by a very steep and high but flattened occiput and described as " hypsicephalic," occurs frequently in India which can be noticeable to a watchful eye. This type is probably a specialized offshoot from the standard Alpine stock. While typical of Armenia and Anatolia, it is generally speaking still to be found sporadically all over S. E. Europe, Asia Minor and Mesopotamia. In a type modified by hybridization, it is

1 Sir J. Marshall, " Mahenjo-Daro and the Indus Civilization," pp. 107-108.
2 Sir J. Marshall, p. 109.
3 Dudley Buxton and T. Rice, J.R.A. Inst. of G. B., and Ireland, Vol. LXI, p. 74.

" common enough in India, but does not seem to be confined to any particular caste though perhaps more often noticeable among Brahmans and Banias than among others, and is most common in Dravidian-speaking India and in the upland valleys of East Punjab and the United Provinces." Thus we see, the Census reporter makes also the same distinction. Indeed Sergi speaks of different forms of neolithic brachycephalic skulls[1] and " these forms are varieties of an anthropological species which must be regarded as arising in Asia...I term it the Eurasiatic species." But von Luschan who is responsible for the coinage of the term " Armenoid " as corresponding to the " Alpine in Asia "[2] and others did not mention about a distinction between the European Alpines and the Asiatic Armenoids.

In Switzerland the so-called " Disitis type " is West Asiatic, *i.e.*, Armenoid type! It is said that high up on the Alps in the Graubünden Canton of Switzerland, the cattle is of the same type as that of Asia Minor and the so-called "Alpine type" is to be found there in a pure state. (This gives rise to the supposition of an immigration from Anatolia in Neolithic period.) According to Ujfalvy the Pamir people look similar with the Savoyards. For this reason the former was called by the discoverer as " Savoyards attardès" ! And this West Asiatic Armenoid or Alpine type has been found by Hölder to be one of the four types in his examination of " Weinhaus Schädel." Thus we see, so long nobody has made any distinction between the brachycephalic-leptorrhins and their affinities of Asia. But as the above-mentioned investigators of Indian anthropology have made a distinction between the "Armenoid type" and the "standard Alpine type" the case must be thoroughly investigated and a comparative craniometric study should be made.

But as regards the hypothesis of the Census reporter that the Armenoid type is more often noticeable among the Brahmans and

[1] Sergi, pp. 262-65.

[2] F. Von Luschan, " Rassen, Sprachen and Völker."

Banias than among others, I beg to draw the attention of the reader again to my analysis of Risley's data in my article on "Das Indische Kasten System." and to see that brachycephalic-leptorrhiny is conspicuous by its absence in the Khatri and Arora castes of the Punjab (mercantile castes though claiming Kshatriya descent) and with the Khatri also the Bania (typical mercantile caste claiming descent from the ancient Vaishya caste) castes of the U. P.; again it is absent in the Brahman caste of the United Provinces, but it is found in a slight degree with the Brahmans of Behar and more so with the Brahmans of Bengal. But to say that it is less noticeable among others especially in Bengal is to go beyond the mark. In my further analysis of some of the Bengal castes in the same article I have found out that if the Brahmans have 13·0% of the element in question, the Kayasthas (a non-Brahman and non-Bania caste) have 17%, and the untouchable Chandals (Namasudras) have 11·91% of the same element. But this analysis is made from the old data of Risley; naturally we will expect more accurate result from more up-to-date and absolute data. For this reason we are looking forward to the publication of the data of the Census of 1931.

Mongolian Question.

Along with the presence of the Armenoid biotype comes the question of the presence of the Mongolian type. The presence of an East-Asiatic racial element is not to be denied in the Himalayan regions and in the North-Eastern mountains. The investigators of the skulls of Indus Valley civilization have found out a skull amongst the collection which they say is similar to a Naga's (dwelling on the hills between the North-Eastern province of Assam and Burma) and they say "close correspondence leaves no room for doubt regarding the racial origin of the individual.[1] This type they name as the "Mongolian branch of the Alpine stock."

[1] "Mahenjo-daro and Indus Valley Civilization," Vol. II, p. 643.

Here we are at a loss to understand the nomenclature, as it is a new classification. Is it borrowed from Dixon who speaks of the Palae-alpine type and, as mentioned before, has made the "Mongoloid" as one of the forms of the same.[1] But, as we understand his Palaeo-alpines are not the same as his Alpines. Scientists from the time of the great Linneus are making new classifications of mankind, putting them into new phylum, genera and species, and coining new nomenclatures. But that does not bring us nearer to clearer certitude than before! The only certitude that can be understood clearly is the definite physical characteristics.[2] Any way, as the investigators hold the skull in question to be similar to a Naga skull from the East, we are to understand it as a so-called "Mongolian" skull and of East-Asiatic affinity.

But the discovery of a stray skull does not speak much. The presence of such an element is evident in the mountainous regions of the North and the North-East, hence the skull in question may belong to an wanderer from abroad.

In order to find out the Mongolian branch of the Alpine stock we will have to refer to Dixon again who says, "For the time being, I shall simply beg the question and refer to the short, Negroid, brachycephalic peoples as the Negrito branch of the Palae-Alpine type...that they were present already in Neolithic times in Further India and perhaps in India itself, seem very probable."[3] Here Dixon speaks of the probable presence of the Negrito branch of his Palae-alpine type in Neolithic India, and not that of the 'Mongoloid' branch of the same. Hence the presence of the Mongolian element in prehistoric India cannot be ascertained from Dixon's hypothesis. Nor does Haddon's saying that "There is something in the facial appearance of many Kolarians.....and among some (Munda etc.) there is often

[1] Dixon, pp. 244-45.

[2] See Luschan's "Sprachen, Rassan and Völker" in connection with new classifications.

[3] Dixon, pp. 244-45.

a reminiscence of Mongoloid fraits" [1] clear our query as it is very vague.

But as stated in the beginning, the Census report of Bengal, 1921, has brought out the fact of " Mongolian fleck " as a proof of a trace of Mongolian blood in the population of India, and it cites the case of the Varendra Brahmans of North Bengal. The Census report of India, 1911, also speaks of the appearance of blue spots amongst the peoples of different parts of India. But this phenomenon is no longer regarded as the sign of " Mongolian affinity " in a given people. The " Mongolian patch " exists in some European races as well ; it appears in the Germans even ! Gates says " the significance of the fleck as a racial diagnostic character is regarded as doubtful." But more clear is Martin who says this " nicht mehr als ein ausschliessliches charakteristicum der Mongoloiden aussehen werden " (can no longer be regarded as special characteristic of the Mongoloids).

Hence the presence of ' Mongolian spot ' in some Indian child can no longer be regarded as a proof of the Mongolian strain in the Indian people. Thus we see the presence of the brachycephalic mesorrhin East-Asiatic racial element, commonly called " Mongolian " in inner India, is yet to be clearly demonstrated.

Nordic Question.

The next question, and culturally the most important question, that turns up is the " Aryan " question. This question has been renamed by the Pan-Germanists as the " Nordic " question. Since the discoveries by Max Müller of the similarity of the Sanskrit language with that of many European languages which made him call all these as Aryan languages, and since comparative study of Indo-European languages by Bopp proving the unity of Sanskrit language with that of the European ones, the

[1] Haddon, p. 108.

theory of an Aryan race which was the progenitor of all the Indo-European-speaking peoples got hold of the mind of men. But on account of various criticisms, Max Müller later had to say that by 'Aryan' he meant a language and not a race! But later developments in Germanic-speaking countries made the word 'Aryan' as the centre of political controversy, and to-day in the same countries the word has got a distinct political connotation!

"Arya" has been the national name of the Indians of old days. To them an "Arya" meant noble. Both the Brahminists and the Buddhists used to call their religions "Aryan path" and the system opposed to theirs was denounced as that of an "Anārya." But since the European philologists have taken up the word "Arya," racial meaning has been attached to it, and national jealousies gave rise to acrimonious discussions, and all these have tended to give a political connotation to the word "Aryan"! [1] Volumes can be written on the Aryan theory, but this discussion is extraneous to our subject here. The present-day philologists have agreed that the word "Aryan" is to be used to denote the Indians and the Persians (Aryas and Airyas) and the word "Indo-European" to be applied to the languages of Asia and Europe having a common origin. But German patriotism prefers to call it the "Indo-German" group of languages.

Regarding the people who spoke the original "Aryan" or "Indo-German" language, many of the North European savants, and particularly among them the Germans, see in them the original inhabitants of North Europe. They say as the dolichocephalic-leptorrhin-tall blond race of men are to be found in North Europe from time immemorial and as this type of men speak Germanic languages, the Aryan, or as they call it, the "Indo-Germanic languages," must have originated in this region.

[1] The reader can find some reference to this discussion in the chapter on "Aryan Controversy" in Ripley's "Races of Europe."

Further they say, the Satam-group of Indo-European languages is to be found distributed from East Europe eastwards to India ; and these, they say, are derived from the original centum group of Indo-European languages which are spoken by the West European peoples. This difference, they hold, is due to the shifting of the consonants according to Grimm's law which is only possible by the change in the tongue incurred by the Centum-speaking Nordic peoples by mixing with peoples of different racial elements in their migrations eastward. Thus in their migration eastward the Nordic and Indo-European peoples have not only modified their tongues but also their physical characteristics. Thus the dolichocephalic-leptorrhin-tall blue-eyed light-haired variety of men has been modified by hybridization into the dark Indo-Aryan of Risley or Indo-Afghan of Deniker.[1]

The theory of the Nordic affinity of the Indo-Europeans has become an *idée fixe* with the German scholars. Penka saw Aryans in the Neanderthal race.[2] Much saw Aryans in the race identities with the Megalithic culture of Europe,[3] and opined that the ancient home of the Indo-Europeans or Aryans was in the Baltic region. Some opined it to have been North Germany, some in Sweden and Prof. Wilser found it to have been in Greenland. But the present-day anthropologists, who take a saner view, regard the Nordics as a subdivision of the Cromagnon race.[4]

Later various attempts have been made to find in the Achaemenid[5] emperors of Persia and in the ancient Hindu kings the descendants of the Nordic immigrants to Asia! Thus

1 *Vide* discussions on the subject in Eickstedt's "Rassen Element der Sikh" and by Eugen Fischer in "Human Heredity."

2 Penka. "Der Herkunft der Arier."

3 M. Much. "Die Heimat der Indo-Germanen in Lichteder Urgeschichtlichen Forschunge," 1901.

4 F. Paudler, "Cromagnon Studien" in Anthropos, Heft. 3, 4. May, Aug., 1917, 1918.

5 T. Arndt, "Germanische völkerwellen und ihre Bedeutung in der Bevölkerunugs geschichte Europas," 1917.

the Nordic cry became an exposition of "Germanism." But as Sergi has said in this matter, "sentiment dies hard." This is attested in the attempt of some who tried to prove that the Germans are the pre-Indo-Germans!

Regarding the metamorphosis of the Aryan theory the French writer Jean Finot has succinctly said, "The Aryan theory became Indo-European theory, the Indo-European theory became Indo-German theory, the Indo-German theory became German theory.[1] But this theory had its reaction and found an echo in "Celticism" of the French.[2]

Here it must be said that the "Nordic theory" is the common possession of all Germanic nations of Europe and America. Prof. Hayes says it arose in Germany out of political stress[3] and Prof. Rapson[4] says, it was instantaneously taken up by England and the United States of America. But after the world war we are hearing of a "Proto-Nordic race" in the steppe lands of South Russia and Central Asia from Haddon and of a "Caspian race" from Dixon. These races, according to these anthropologists, have developed into "Nordic" in North Europe, and this Caspian element has come down to India in ancient times.

This theory of a Nordic migration to India cannot be proved either from Indian literature or by anthropological investigations. It is a fact that a long-skulled narrow-nosed tall variety of men are to be found in the mountains of the North-Western frontier of India and in the plains below. Deniker named it as "Indo-Afghan," Risley as "Indo-Aryan." There cannot be any dispute about it. But the question is how far does this biotype extend itself in India. According to Risley and those who accept his views, this type is confined to the Punjab and Rajputana. But we think otherwise.

1 Jean Finot, "L'agonie et Mort de Race."
2 *Vide* Sergi, p. 20.
3 Hayes, "History of Modern Europe," Vol. II.
4 Rapson, "Nationalism and Internationalism."

It has been said before that identity of index figures is not enough to establish racial unity ; also to turn out a race based on the averages derived from indices may prove to be a sound hypothesis, but it may be removed from stern real fact. For this reason, the averages derived from the indices cannot be the only criteria of characteristics of a given group of people, because the other elements, inferior in numbers, lie hidden in this arithmetical average.[1]

For this reason, the hypothetic racial types based on averages which have been turned out by Risley and others cannot be the determined biotypes in India. The data on which these hypothetic races have been derived must be analysed and the different elements that are in them must be resolved into their components.

This being the case, a biometric[2] analysis of Risley's data will show that though the Punjabi Jat-Sikhs measured by Risley have 57·5% of dolichoid-leptorrhiny in them, they have 5% of dolichoid-chamoerrhiny in them as well! But the analysis of the data of his Khatri, the Arora, and the Chura castes show that they have dolichoid-mesorrhiny characteristics equally predominant in them. On the other hand, the Khatri have 1·6% of brachycephal-mesorrhiny, the Arora have 3·0% of the same element, and the Chura have 12·5% of the same.

Again, in the eastern province of Bengal, analysis shows that if all the Hindu castes have dolichoid-leptorrhiny as one of the component elements in them, though dolichoid-mesorrhiny is the dominant element in each of them, the Kayastha have 30·0% of dolichoid-leptorrhiny, 17·0 of brachycephal-leptorrhiny, the Brahman have 29·0% of dolichoid-leptorrhiny, 13·0 of brachycephal-leptorrhiny, the cultivating Sadgop have 22·9% dolichoid-leptorrhiny, 4·16 of brachycephal-leptorrhiny, the milkman

1 B. N. Datta, "Das Indische Kasten System" in Anthropos, Bd. XXI, 1927.

2 Sergi, "The Mediterranean race," p. 8. He says I meant by "Germanism" the theory which attempts to prove that the Germans are the primitive Aryans.

Goala caste have 19·5% of dolichoid-leptorrhiny, 4·0% of brachycephal-leptorrhiny, the cultivating Kaibarta have 11·0% of dolichoid-leptorrhiny, 2·0% of brachycephal-leptorrhiny, while the untouchable Chandal (Namasudra) caste have 14·92% of dolichoid-leptorrhiny, 11·94% of brachycephal-leptorrhiny in them!

Further, in my paper entitled "Anthropological Notes on Some West-Bengal Castes" submitted in the Oriental Conference held at Lahore, in which I have given some physical measurements of 83 subjects taken by me, I have shown that, out of 83 subjects 16 are dolichoid-leptorrhin, 8 are brachycephal-leptorrhins. Of course here, as in the abovementioned data, the dolichoid-mesorrhins are in preponderance. Here, it should be said that, from the Brahmins to the Santals, representatives of various castes have been measured.

Again in my paper submitted to the Science Congress held at Madras in 1927 on "Anthropological Notes on Some Assam Castes" in which the somatic measurements of 94 subjects from various castes taken by me are given, I have shown that, out of 94 subjects, 34 are of dolichoid-leptorrhin characteristics, 20 are of dolichoid-mesorrhin characteristics, 26 are are of brachycephal-leptorrhin characteristics, 12 are of brachycephal-mesorrhin characteristics, 2 are of brachycephal-chamoerrhin characteristics. Thus in the farthest North-eastern part of India, the long-skulled-leptorrhin type is in the majority! Further, the presence of dolichocephalic-leptorrhin and brachycephalic-leptorrhin elements in this remote corner of India is also attested by Haddon.[1] Again this element is also not unknown in South India as testified by Dixon when he says that with the Toda and the Nair "a dominance of Caspian-Mediterranean types" is to be found.[2] Eickstedt also speaks of North-Indian affinity of the Todas.[3]

[1] Haddon, "Races of Man."
[2] Dixon, p. 264.
[3] Eickstedt, "Rassenkunde und Rassendiagnostik."

Thus it is seen that the long-skulled-narrow-nosed variety of man is not unknown to other parts of India. This biotype is not confined to a particular locality of India, at the same time dolichoid-mesorrhin biotype is also strongly represented in the Punjab! Rather it is predominant in many of the Hindu castes of the same province which are labelled as "Indo-Aryan" by Risley. Again, Dixon speaks of the presence of the Mediterranean element in the Punjab. Does he thereby mean the dolichoid-mesorrhins? Thus it is evident that to talk about a particular biotype inhabiting a particular area or that it is to be found only amongst some particular caste or castes is a mistake.

Any way, the presence of the dolichoid-leptorrhin biotype in India is assured. But the question that turns up now is whether this biotype came next in order of succession to the Eurasiatic Armenoid biotype or before it. The author of "Mahenjo-daro and Indus Valley Civilization" thinks that this biotype appeared on the Indian soil after the Armenoid one. The argument that is advanced on behalf of this theory is that in the remains of the Indus valley civilization no specimen of this biotype has been discovered, and further, the archaeologic age of the layer of this civilization is anterior to the accepted age of the Vedic invasion. Hence this biotype, named Indo-Aryan, must have appeared later in history in India than the Armenoid element.

So far [1] this hypothesis holds the field. But some pertinent questions may be asked here. Can the presence of some stray skulls in two mounds situated over a wide extent of the land be the conclusive proof of the non-existence of a racial element? Marshall himself admits that as far as "history can be traced the people of Sindh and the Panjab had been a blend of many diverse elements and there is no reason for assuming that it was other than heterogeneous in the earlier age with which we are now concerned" [2]; hence the absence of any

[1] Dixon, p. 26 f.
[2] Sir J. Marshall, p. 109.

type of skulls other than discovered at the mounds may be an accident[1] Hence on account of preliminary stage of archaeological discovery of prehistoric India we cannot build up a conclusion about anthropological reality, though it may be tentative and a "working hypothesis" with some. The absence of the dolicho-leptorrhin element in a prehistoric mound is no conclusive proof, as evidences are not lacking to show that the Armenoid type is to be found in the present-day population of the Punjab labelled Indo-Aryan.[2] The Census reporter of 1931 speaks of its presence in the upland valleys of East Punjab and the United Provinces. Further, amongst the Indian soldiers imprisoned in Germany, some anthropological measurements were taken by the German and Austrian anthropologists. Of the 76 Jat-Sikhs measured by Dr. Von Eickstedt, he has found several elements one of which appeared to have the characteristics of West-Asiatic type. Thus he says, "Die Zahlreichen iranischen Typen mit gebogener Nase könnte man vielleicht als Milieu-bedingte Extremvarianten der Vorder-asiaten aufpassen,, und im östlichen Punjab wären diese Leute dann unter unseren Sikh in letzter spurzufinden." (The numerous Iranian types with bent form of nose could be taken perhaps as extreme variants of the West Asiatics conditioned by environment).[3] Also we found traces of Central Asiatic influence amongst these Jat-Sikhs.[4] These elements he thought to have been introduced by foreign conquests in historical period.

This kind of element has been spoken by Eickstedt as "untypisch" (not typical) Sikh, and he asked the reader to compare the same type with the photo of an 'untypisch' Sikh

[1] Marshall speaks of the presence of a mesaticephalic medium-nosed skull in the jar burials discovered at Harappa. The investigators regard it as belonging to a different race from those so far discovered at Indus valley and Harappa.

[2] Weninger, "Die-Vorderasiat-Rasse" in Mitt. Geograph Gesa, Wien, 1921.

[3] E. Von Eickstedt, "Rassen Elemente der Sikh" in Z. für Ethnologie, 1920-21.

[4] *Ibid*, p. 366, Heft 415, p. 365.

from Lahore which has been collected by Weninger of Vienna in connection with the West Asiatic race.

Thus so far about the latest investigations. As regards Risley's data, in my analysis mentioned before I have shown that brachycephaly is not absent with the Punjab Hindus. With the Khatri brachycephal mesorrhiny is present with 1·6%, with the Arora with 3·0%, with the Chura with 12·5% !

Moreover, the subjects of this outcaste people measured by Risley have 1·25% of brachycephal leptorrhiny and of 1·25% of brachycephal chamoerrhiny amongst them. It is a strange thing that brachycephal leptorrhiny is to be found in a caste standing at the lowest stratum of the Hindu society in Punjab !

Thus the presence of a brachycephalic element in the Punjab cannot be denied. The reason of not finding it before lay in Risley's old-fashioned method of creating a hypothetic race on the basis of arithmetic averages !

The question of brachycephal mesorrhiny may trouble some. But I would like to draw attention of the reader to the fact that much noise has been made regarding the belated Savoyards—the Galtchas ! The Iranian-speaking brachycephalic tribes of the Pamirs, *viz.*, the Galtchas, the Mastujis, the Sarikolis, the Wakis, the Faizabadis investigated by Ujfalvy and Aurel Stein show, according to the deductions of Joyce, that with the exception of the Faizabadis all are on the average mesorrhinic ![1] The Galtchas have 22·4% of leptorrhiny, 60·3% of mesorrhiny and 10·2% of chamoerrhiny ! Thus the '*Homo Alpinus*' of Lapouge of the Pamirs are not predominantly leptorrhines, at least as far as the Galtchas are concerned. This may account for the brachycephal mesorrhiny of the Punjab castes. Eickstedt accepts the presence of Central-Asiatic influence in the Punjab as said before.

The question is when did this influence come ? Eickstedt thinks that the influence of foreign invasion was felt only in the

[1] Joyce, J. Anth. Inst. Bk. 16. My analysis of Risley's data of the U. P. shows the presence of brachycephal-mesorrhiny in all castes save the Kewat.

cities and not in the flat land.[1] . He investigated the Jat-Sikhs amongst the peasant population. But when the presence of brachycephaly is to be seen not only with the mercantile classes (Khatri and Arora) but is strongly represented in the out-casted Chura, and the Census Report of 1931 speaks of its presence not only with the priestly Brahmins and mercantile Banias but also in the upland valleys of East Punjab and the Gangetic valley of the United Provinces, the migration of this element anterior to the historical period seems to be not an impossibility.

The presence of brachycephal-mesorrhiny may lead many to suspect an East Asiatic affinity of these people. But Eickstedt suspects that the nasal indices given by Risley have been wrongly measured as he says, "Somit sind auch beim Nasal index Risleys Mittelwerte nicht direkt unseren heutigen Vergleichbar, sondern bedürfen für Nordwest inder einer Reduktion von etwas 5 Ein heiten" (The average nasal indices given by Risley cannot be directly compared with that of ours of the present day. It requires a reduction of 5 units in the case of the Indians of the North West).[2] If this be the case, then we would find more of leptorrhines in the Punjab, and if such a mistake has been made everywhere, then we will find more leptorrhines all over India!

Thus the absence of the dolichocephalic-leptorrhine element in the mounds of Mohenjo-daro and Indus Valley civilization cannot be taken as the final proof of its migration in a period later than that of Mohenjo-daro civilization, and at the same time the presence of brachycephalic West Asiatic element in the present-day Punjab population cannot be denied.

Naturally, the question of the time of migration of these elements comes up again. Which element migrated first in this region and who brought the Indo-European language to India is the question. Unless and until the seals discovered in the Indus valley mounds be deciphered we cannot know anything about the

[1] Eickstedt, p. 213.
[2] *Ibid*, p. 865.

language of those ancient peoples. But as it is supposed by some that the brachycephalic Eurasiatics introduced the Indo-European language into Europe in the Neolithic period, then the so-called Alpine or Armenoid people must be the original carriers of the Aryan language.[1] It is natural then to conclude that these people have brought the same language to India as well. But when those who believe that the Nordic variety of the Eurafrican race was the original speakers of the Aryan speech and was responsible for spreading the Indo-European language over the rest of the world, they mix race with language; in that case they don't give an explanation of how a section of the original Eurafrican race came to possess the Aryan language while its Mediterranean branches did not possess the same! So long those of the occidental anthropologists who have interested themselves in Indian anthropology have worked with the hypothesis of a Nordic affinity of the Vedic Aryans. Naturally they hold the Nordics to be responsible for the introduction of the Sanskrit-Indo-European language in India. And as Sanskrit belongs to the Satem group of the same, this linguistic modification becomes a handy weapon in the hands of the Pan-Germanists to see a modification of the racial traits of the original Nordics in their wanderings towards the East. The practical proof of this theory is pointed out by them in the case of long skull, narrow nose and tall characteristics of the so-called Indo-Afghan racial element! The presence of a dolichocephalic-leptorrhine racial element in Northern India is brought out as proof of this wandering of the Nordics to the East as a conquering people, and the fight between the "Aryas" and the "Dasyus" in the Vedas has been cited as a fight between two races of different skin-colour and physical characteristics.

So far so good is this theory; and the Indians are being spoon-fed with it! But if the view that the broad-skulled narrow-

1 The reader may recall the reports about Hittite and Mittani languages. The Mittani people spoke a language similar to Sanskrit, and Ed. Meyer and Hall call them Iranians.

nosed Alpines or the Armenoids or the Vorderasiatic element was responsible for the introduction of the Indo-European language from Asia to Europe be accepted, then it cannot be denied that the affinities of the same element spoke the same language in the East as well! Then it turns out that the progenitors of the Achaemenids in Persia and of the Vedic tribes of India were not responsible for the introduction of the Aryan languages in those countries. There must have been other elements who were accountable for this. Then would it not be the '*Homo Alpinus*' who would spread of the Aryan language here?

The presence of the so-called Alpine element in the Punjab so far ascertained from the existing physical data, seems to us to speak in favour of our contention. The original tribes that descended from the southern slope of the Hindu Kush to the Punjab plain were certainly not homogeneous in racial characteristics. It cannot be said that they were free from the influences of the Iranian strains that are still to be found in the Pamirs and in northern parts of present-day Afghanistan. When we remember the original similarity in language, religion and other matters between the Aryas of the Vedas and the Airyas of the Avesta, we cannot make a sharp ethnic distinction between the two in the dim past. Further, it is evident that brachycephaly is more prevalent with those peoples whe speak the Satem group of Aryan languages.

If according to the Pan-Germanists the 'Indo-Afghans' of Deniker as the 'Indo-Aryans,' of Risley are the descendants of the Nordics hybridized on the Indian plain by mixing with a dark population, then how is it that they have not left any remnants on their way to India? Instead we find the affinities of '*Homo Alpinus*' on their way from Central Europe to the Pamirs.

The presence of the Aryan-speaking fair-complexioned brachycephalic belt in central and west Asia is inexplicable even to-day. The creation of another hypothetic Caspian or Proto-Nordic race in Central Asia cannot solve the Indian problem.

It seems the problem goes in a circle here as well, and until we disabuse our mind of this Pan-Germanic complex we shall not be able to solve the question.

Again, if the dolichocephalic-leptorrhines of the Punjab plains be the descendants of the Nordic or the Caspian race then how is it that no blond trait is discernible in their so-called descendants of northern India? The theory is advanced that persons with blond characteristics have been eliminated as these could not stand the climate. If that be the case, won't in accordance with 'Basterdierungslehre,' heterozygotes that would be left by splitting ancestral types reappear through atavism or by the phenomenon of "Entmischung" as termed by Luschan, so that proofs of blond traits can be detected in the population ? But nobody has found any such traits as yet !

Eickstedt in his investigation of Sikhs has found one subject (No. 58) with light-coloured hair. Regarding this he asked whether this be not the result of the invasion of the northern barbarians known as Usuns. Also it may be, he said, due to European influence of the latest period![1] But Dr. Eickstedt forgets that this light-coloured hair instead of re-appearing as an atavistic trait from the fabulous Usuns or from the modern Europeans, may come from the neighbouring Alpine element of the Pamirs as investigated by Aurel Stein.

Thus it is evident to us that instead of tracing the carriers of Sanskrit language from North Europe or their progenitors in the Caspian region, elements nearer at hand may be held to be responsible for it! It may be that instead of the brown-skinned dolichocephal-leptorrhines, the light-skinned brachycephal-leptorrhines are the carriers of the Aryan language in India. But the proof of all these contentions lies in further excavations and investigation.

[1] Eickstedt, p. 365.

Migration in Historical Period.

So far we have discussed about all the possible racial elements that may have entered into the composition of the people of India. But as much talk is going on since the days of Colonel Tod that the Scythians, the Yue-chi and the Huns who invaded India from Central Asia in the historical period might be the forbears of many of the Indian castes now-a-days ranked as belonging to the second class of ancient Hindu social hierarchy, it behoves us to make an enquiry regarding the physical anthropology of those invaders.

The physical traces of those invaders have been obliterated from the world ; we can only surmise regarding them.

The Scythians are the nomadic peoples of Central Asia and South-East Russia. It has been found out that the language of the Scythians (Scoloti) of South Russia which Herodotus has mentioned is of Iranian affinity.[1] The Scythians of Central Asia named as Sacai by the Persians has been discovered to be Iranian-speaking peoples.[2] Finally, the Yue-chi spoke a language which seems to be of the Centum group of Indo-European languages ![3] Thus, it has become clear that the Central Asiatic Scythians and the Yue-chis were Indo-European-speaking peoples.

As regards their somatic characteristics nothing definitely can be said. No human remains have been found which can be definitely said to be Scythic or Yue-chi. As far as the remains found in the so-called Scythic graves of South Russiago, Minns says : " But the rather scanty observations made hitherto tend to shew that there was considerable variety among individuals who used objects of defined Scythic types. The best known case is that of the five skulls found in Chertombyk and discussed by K. E. Von Baer. Of these two were short and two were

[1] " Encyclopaedia Britannica," Vol. 17, 1929, p. 565.

[2] Leumann, " Uber die einheimischen Sprachen Von Ost. Turkistan " in Morgenland ische zeitschrift, Vol. 61, 190.

[3] S. Feist, " Indo-Germannen und Germanen," p. 112.

long and one was intermediate and the data were not sufficiently exact to shew that either lords or servants were one or the other. So too some of the skulls illustrated by Count Bobrinskoj in *Směla* slightly suggest Mongolian forms ; others are purely European " (Sm. II, pp. lxxvii-xxx). To this same conclusion came Prof. A. Bogdanov[1] who says that in Scythic tombs the skulls are mostly long though occasionally Mongoloid and notes a general tendency towards brachycephaly during the Scythic period.[2]

Then we come to the physical anthropology of the Yue-chi. Since the discovery of the Yue-chi civilization at Turfan (Chinese Turkestan) all speculations regarding the Turkish affinities of the Scythians and the Yue-chi have been set at rest. It has been found out that they were Aryan-speaking peoples and influenced by Buddhism from India. The pictures[3] found along with other relics show the Yue-chi to be powerfully built, long-nosed, grey-eyed peoples with red beards! In their face the combinations of long narrow nose with so-called Mongolian squint eyes are to be noticed. The type of Yue-chi face or the Scythian face as depicted in the coin of Kujalakadpishes is still to be met with amongst the Afghans of the North-west Frontier of India of to-day. Some skulls amounting to sixteen have been discovered along with those relics from Turfan. Of course it cannot be definitely said that these were Yue-chi skulls, but they have been discovered with the relics of the Yue-chi civilization.

Prof. Klaatsch of Breslau examined these skulls and reported : " Die reichen Schutze leidlicher Darstellung zeigen uns ihre Gesichtszüge, die offenbar einer Mischbevölkerung angehoren... ...Die morphologische Analyse lässt unter dem Turfan material verschiedene Elemente erkennen, die teils ziemlich rein in die

[1] A. Bogdanov, " Quelle est la race la plus ancienne de la Russie centrale? in congrés international d'Archéologie Préhistorique et d'Anthropologie II mee Session a' Moscou," 1892, p. 5.

[2] S. H. Minns, " Scythians and Greeks," pp. 46-47, 1913.

[3] All these relics are to be found at Museum Völkerkunde, Berlin.

Erschienung treten, teils in Mischung miteinender erkennbar sind.....was mir von archäologischer Seite über die Vereinigung der Elemente zu einem Volke mitgeteilt wurde, findet in dem ausgesprochenen Mischcharakteren, die an der Mehrzahl der Turfan schädel sich nachweisen lassen, eine klare Bestätigung." (The rich treasures of passionful representation show us in their faces that they belong to a mixed population...The morphological analysis of the Turfan material would recognize a different element, which appears partly in tolerably pure condition, partly mixed with each other...What is informed to me from the archaeological side on the union of the elements to a people, finds a clear corroboration in the clearly mixed characters that are to be found in the majority of the Turfan skulls).[1]

Thus in our investigations of the Central Asiatic Indo-European-speaking nomads who have played some rôle in the history of Northern India in the early Christian period, we have found out that they were mixed peoples. Now, would it be possible to deduce new races and castes in India out of these mixed elements drawn together into a nomadic tribe ? Then the question comes can a nomadic tribe of fifty thousand to a hundred and fifty troopers[2] change the racial characteristics of its overwhelmingly numerically superior subject peoples? Rather history says they become absorbed in the subject people! The utmost that can be predicated is that, they leave traces of their somatic characteristics in the people with whom they merge. Moreover these Central Asiatic people settled for the most part in the regions situated in the Afghan borders.[3] Hence it would not be reasonable to find races or castes formed by them in inner India ; they may leave their somatic traces in the individuals.

The abovementioned racial questions are the important ones that draw the attention of the anthropologists ; yet there is

[1] H. Klaatsch, " Morphologische Studien Zur Rassen diagnostik Der Turfanschädel, " Berlin, 1913, pp. 1-47.

[2] *Vide* O. Francke, " Zur Geschichte der Türkvölker."

[3] According to some the Baltis show traces of these people.

another question that draw the attention of the philologists who tried to find a new racial element in India by their philological deductions. It is the "Mon-Khmer" question in India. But it seems the anthropologists are not enamoured of this race, and they don't speak about its presence in India. Yet when the question has been raised, and is still drawing the attention of the philologists we must investigate it as far as India is concerned.

Mon-Khmer Question.

The "Mon-Khmer" race is the discovery of Pater Schmidt of Vienna. Regarding it [1] Dr. Grierson said: "Pater Schmidt's former works had shown that there exists in Further India an important group of languages...which was neither Tibeto-Burman nor Sinitic, while on the other hand it was closely connected with Khasi spoken in central Assam...Dr. Konow has been able to show not only that the Munda languages are connected with Mon-Khmer, but that the former must once have extended much more widely over India then they do at the present day. Similarly, Pater Schmidt, working from the side of Further India, shows clearly that the bases of the Munda languages and the Mon-Khmer languages are identical." [2]

On the basis of this comparative study a hypothetic race has been deduced, the somatic characteristics of which are :—

Skull—dolichocephalic or mesocephalic.
Eyes—horizontal, not like narrow slits.
Base of nose—wide.
Skin—dark.
Hair—more or less wavy.
Stature—short or medium.

[1] Pater Schmidt, "Dia Mon-Khmer-Völker, ein Bindeglied Zwischen völker Zentralasiens nnd Austronesians," Archivtfürd Anthropologia, New Folge, Bd. V, Heft 1-2, 1906.

[2] G. A. Grierson, I. R. A. S., Jan., 190f.

These are the physical characters of the speakers of the Austro-Asiatic languages.[1] But the above description reminds us of the " Dravidian " race of Risley who has clearly said that the Mundas though speaking the Mon-Khmer languages are of Dravidian physical characteristics.

On the other hand, Eickstedt speaks of a " Palae-mongolide " race that wandering in small groups in the South-eastern Asia in the pre-Aryan period, advanced even to India. In India they have left their traces in the Mundari-speaking Sora and Yuang, also in the Munda, Ho, Santal, etc. Also they have left their traces in numerous old-Dravidian groups of Gondian Race, *viz.*, the Oraon etc., with different ' Indian ' local types and even the Veddahs of Ceylon are not free from their influence.[2]

Here it seems the " Palae-mongoliden " of Eickstedt cover partially the place of the Mon-Khmers of Pater Schmidt. Perhaps Eickstedt meant the Mon-Khmer but has given a new name. Schmidt deduces a race on philological basis, and demonstrates it in some of the present-day pre-Dravidian tribes of India. Eickstedt cites many of the same tribes as the basis for his race. Hence it seems both of them mean the same people. But none of them have given definite data for the deduction of their hypothetical races!

Further Sylvain Levi suggested a " pre-Aryan and pre-Dravidian " epoch in India. He said, The study of the proper names in Indo-Aryan cannot yield in many cases results so long as we ignore the importance of Austro-Asiatic contributions to the religion and civilization of ancient India.[3]

Regarding the physical characteristics of the Khmer people of Cambodia, Deniker[4] says, " one can conjecture that the

[1] G. A. Grierson, I. R. A. S., Jan., pp. 187-89.
[2] Eickstedt, p. 214.
[3] S. Levi, " Pre-Aryan and Pre-Dravidian in India " translated by P. Bagchi.
[4] Deniker, p. 481.

Khmers are the issues of mixture of Malayas and of Khmers with the addition of Indian blood, at least in the higher classes of the society. Thus the peoples speaking the Mon-Khmer group of languages are varied in their anthropological characteristics. Hence no race can be built upon the basis of language similarity. We may talk of a Mon-Khmer group of languages, not of a race.

As regards pre-Aryan and pre-Dravidian influence, the question will be solved automatically when the questions discussed before have been solved.

At last we are at the end of our survey. We have seen that discrepancies exist regarding the reports and views of various anthropologists. These diverse reports and opposing opinions lead us to blind alleys. New nomenclatures and classifications, instead of conducting us out of the labyrinth, only confuse the student and frighten the layman. The Indian anthropological investigations are at present on the threshold of the science. Hence what is needed is more of accurate and systematic investigation and less of speculation. We have seen that different biotypes do exist in India. The desideratum is to make a comparative study before we fix their affinities with those of the outside world.

THE KHASIS

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Introduction.

The home of the Khasis is the district of the Khasia and Jaintia Hills. Speakers of the Khasi dialect are also found in the adjoining districts of Sylhet and Cachar.

Because of their linguistic affinity with the Austric-speaking peoples and matriarchate systems a study of the racial history of the Khasis is full of interest to the students of anthropology.

In the following pages an attempt has been made to study their racial history as far as is ascertainable from the somatological point of view.

The following measurements have been taken according to the modern methods of anthropometry—stature, head-length, head-breadth, head height, face-length, face-breadth, bigonial diameter, nose-length, nose-breadth, orbito-nasal diameter, and orbito-nasal arc and the following indices have been calculated from them—cephalic index, altitudinal index, facial index, zygomatico-mandibular index, nasal index, and orbito-nasal index. They have been studied according to the modern principles of Statistics and Biometry. Besides these, observations regarding the following characters were made—skin-colour, quantity, character and colour of hair and moustache and beard, quantity of eye-brow, direction and

colour of eye, height, breadth and retreat of forehead, development of supra-orbital ridges, character of nasion depression and nasal bridge, inclination of nasal septum, prominence and size of malars, thickness and eversion of the lip, grade of alveolar prognathism, form of the chin and the prominence of angles of lower jaw.

Further I beg to add that the series includes 132 subjects. I have to reject seven schedules, which appeared at the time of measurements, on cross-bred subjects and noted as such but whom we measured because we did not venture to annoy them by rejecting them then and there. I have also to reject eight more which were either incomplete or which appeared, on the face of them, as a result of mis-recording or mis-choice.

Specification of the Khasis.

From Table I it will be seen that the Khasis are a short-statured people with a high mesocephalic head, a mesoprosopic face and a mesorrhine nose, and in the height of the root of the nose above the level of the orbit, they are pro-opic. The head varies from long to medium and has a high vault. The face is variable with a frequency of mesoprosopics. The nose is medium and in the height of the root of the nose above the level of the orbit, they are pro-opic.

The hair on the head is of medium growth and straight and black and on the face it is scarce, straight and black. The eyebrow is scanty. The eyeslit is horizontal and the prevailing colour of the eye is light brown and that of the conjunctiva dirty or reddish yellow. The forehead is vertical and of medium height and breadth, and the supra-orbital ridges remain as traces. The nasion depression is shallow and the nasal bridge is moderately concave and the septum horizontal. The malars are moderately prominent and of small size. There is no alveolar prognathism. The lips are of medium thickness, the chin ordinary and the angle of the lower jaw medium.

TABLE I.

Specification of the Khasis.

			No.	P. c.
Stature	Pygmy	X—1299	0	0
	Very short	1300—1499	6	4·5
	Short	1500—1599	70	53·0
	Below medium	1600—1639	29	21·9
	Medium	1640—1669	17	12·9
	Above medium	1670—1699	7	5·3
	Tall	1700—1799	3	2·3
	Very tall	1800—1999	0	0
	Giant	2000—X	0	0
Cephalic Index	Dolichocephalic	X—75·9	39	29·5
	Mesocephalic	76·0—80·9	66	50
	Brachycephalic	81·0—85·4	25	180·9
	Hyperbrachycephalic	85·5—X	2	1·5
Altitudinal Index	Chamaecephalic	X—57·6	3	2·3
	Orthocephalic	57·7—62·5	4	3·0
	Hypsicephalic	62·6—X	125	94·7
Facial Index	Hypereuryprosopic	X—78·9	19	14·4
	Euryprosopic	79·0—83·9	26	19·7
	Mesoprosopic	84·0—87·9	47	35·6
	Leptoprosopic	88·0—92·9	31	23·5
	Hyperleptoprosopic	93·0—X	9	6·8
Nasal Index	Hyperleptorrhine	X—54·9	0	0
	Leptorrhine	55·0—69·9	19	14·4
	Mesorrhine	70·0—84·9	98	74·2
	Chamaerrhine	85·0—99·9	15	11·5
	Hyperchamaerrhine	100·0—X	0	0
Orbitonasal Index	Platyopic	X—109·9	28	21·2
	Meso-opic	110·0—112·9	40	30·3
	Pro-opic	113·0—X	64	48·5

NUMERICAL AND GRAPHICAL REPRESENTATION OF KHASIS.

The accompanying Table II gives the variability of the Khasis. It will be seen that the variability is never very great and is within the range of normal variation.

In Table III, which gives the variability of the head-length and head-breadth of races which are approved to be homogeneous,

it will be seen that the variability of the Khasis for these characters is practically the same except that it is slightly greater than that of the Ainos. May I then take the Khasis as homogeneous ?

Again, by a reference to Tables IV-XX and diagrams I-XVII, it will be seen that the frequency distribution of the absolute measurements and indices are regular for all practical purposes. The slight irregularities of the bigonial diameter and orbitonasal arc might be attributed to the scantiness of the data, or is it not possibly due to miscegenation. The irregularities in other characters will be eliminated in the process of smoothing.

Table II.

Variability of the Different Characters of the Khasis.

mm.		m.	σ	v
Stature ...	St.	1584·43 ± 3·43	58·51 ± 2·44	3·69 ± ·15
Head-length ...	H.L.	189·55 ± ·36	6·13 ± ·25	3·23 ± ·13
Head-breadth ...	H.B.	147·65 ± ·34	5·71 ± ·24	3·86 ± ·16
Head-height ...	H.H.	135·11 ± ·34	5·29 ± ·22	3·92 ± ·17
Face-length ...	F.L.	114·47 ± ·37	6·39 ± ·27	5·57 ± ·23
Face-breadth ...	F.B.	135·10 ± ·31	5·31 ± ·28	3·93 ± ·16
Bigonial Diameter ...	B.D.	101·67 ± ·33	5·52 ± ·23	5·43 ± ·23
Nose-length ...	N.L.	49·84 ± ·17	2·90 ± ·12	5·81 ± ·24
Nose-breadth ...	N.B.	38·35 ± ·14	2·36 ± ·10	6·15 ± ·26
Orbito-nasal Diameter...	O.N.D.	102·16 ± ·40	6·75 ± ·28	6·67 ± ·28
Orbito-nasal Arc ...	O.N.A.	115·62 ± ·46	7·88 ± ·32	6·82 ± ·28
Cephalic Index ...	C.I.	77·81 ± ·02	3·68 ± ·02	4·72 ± ·20
Altitudinal Index ...	A.I.	71·28 ± ·32	5·47 ± ·23	7·68 ± ·32
Facial Index ...	F.I.	84·73 ± ·31	5·36 ± ·22	6·33 ± ·26
Zygomaticomandibular Ind.	Z.M.I.	75·26 ± ·24	4·12 ± ·17	5·70 ± ·24
Nasal Index ...	N.I.	76·75 ± ·38	6·53 ± ·27	8·58 ± ·36
Orbito-nasal Index ...	O.N.I.	113·18 ± ·26	4·41 ± ·18	3·90 ± ·17

TABLE III.

Variability of the Head-length and the Head-breadth of the Khasis compared with Homogeneous Series.[1]

Race.	Head-length.		Head-breadth.	
	σ	v	σ	v
Khasi ...	6·13	3·23	5·71	3·86
Bavarian ...	6·088	3·371	5·849	3·887
Aino ...	5·936	3·195	3·897	2·759
French ...	7·202	3·966	6·068	4·206
English ...	6·446	3·435	4·976	3·554

I might also add that it is not impossible that different racial elements may, by the process of miscegenation, ultimately produce a type with variability and frequency-distribution which might not be appreciably different from those of a homogeneous series.

From Table XXI it will be seen that the variability of the present series is smaller than that of Dixon's in respect of N. L., N. B. and N. I., and from that of Waddell's in respect of N.L. and N.I., and it is practically the same in respect of C.I. with Dixon's and of N.B. with Waddell's. For all other characters, the variability of the present series is greater than that of Dixon's and Waddell's although, as might be expected when the numbers [2] in each series are considered, that the variability in my series ought to have been less.

But it might be added that Dixon's measurements were taken on convicts, and as such it is doubtful how far they may represent the people from whom they are taken except in so far as a help to detect the racial elements in them.

[1] *Biometrika*, Vol. I, p. 424.

[2] Dixon's series consists of 25 subjects and Waddell's 70 subjects. I beg to add that from Waddell's series I have to reject a good many which seemed to be either a result of misprint or to be abberrent.

Again Waddell's measurements were taken before 1901, and he has not left any note as to the methods he adopted.

Table IV.

Frequency-distribution of Stature for the Khasis.

Stature in mm.	No.	P.c.
1425	2	1·5
1445	3	2·5
1475	7	5·3
1505	26·5	20·1
1535	18·5	14·0
1565	23·5	17·8
1595	25·5	19·3
1625	14	10·6
1655	8	6·1
1685	4	3·0

Table V.

Frequency-distribution of Head-lengths for the Khasis.

Head-length in mm.	No.	P.c.	Head-length in mm.	No.	P.c.
171–	2	1·5	189–	13	9·8
173–	0	0	191–	12	9·1
175–	1	·8	193–	15	11·4
177–	1	·8	195–	13	9·8
179–	6	4·5	197–	8	6·1
181–	6	4·5	199–	6	4·5
183–	7	5·3	201–	1	·8
185–	14	10·6	203–	1	·8
187–	25	18·9	205–	1	·8

TABLE VI.

Frequency-distribution of Head-breadths for the Khasis.

Head-breadth in mm.	No.	P.c.	Head-breadth in mm.	No.	P.c.
133–	2	1·5	149–	15	11·4
135–	3	2·3	151–	12	9·1
137–	3	2·3	153–	14	10·6
139–	5	3·9	155–	9	6·8
141–	9	6·8	157–	4	3·0
143–	18	13·6	159–	2	1·5
145–	17	12·9	161–	1	·8
147–	18	13·6			

TABLE VII.

Frequency-distribution of Head-heights for the Khasis.

Head-height in mm.	No.	P.c.	Head-height in mm.	No.	P.c.
101–	2	1·5	129–	16	12·1
105–	1	·8	133–	27	20·4
109–	0	0	137–	19	14·4
113–	3	2·3	141–	23	17·4
117–	2	1·5	145–	11	8·3
121–	4	3·0	149–	3	2·3
125–	17	12·9	153–	4	3·0

Table VIII.

Frequency-distribution of Face-lengths for the Khasis.

Face-length in mm.	No.	P.c.	Face-length in mm.	No.	P.c.
97–	1	·8	117–	21	15·9
99–	0	0	119–	13	9·8
101–	2	1·5	121–	8	6·1
103–	5	3·9	123–	9	6·8
105–	7	5·3	125–	2	1·5
107–	8	6·1	127–	3	2·3
109–	6	4·5	129–	2	1·5
111–	20	15·1	131–	0	0
113–	11	8·3	133–	0	0
115–	13	9·8	135–	1	·8

Table IX.

Frequency-distribution of Face-breadths for the Khasis.

Face-breadth in mm.	No.	P.c.	Face-breadth in mm.	No.	P.c.
122–	1	·8	138–	8	6·1
124–	4	3·0	140–	13	9·8
126–	7	5·3	142–	11	8·3
128–	3	2·3	144–	2	1·5
130–	20	15·1	146–	3	2·3
132–	19	14·4	148–	0	0
134–	19	14·4	150–	1	·8
136–	21	15·9			

TABLE X.

Frequency-distribution of Bigonial Diameters for the Khasis.

Bigonial Diameter in mm.	No.	P.c.	Bigonial Diameter in mm.	No.	P.c.
87–	1	·8	103–	11	8·3
89–	3	2·3	105–	23	17·4
91–	7	5·3	107–	12	9·1
93–	3	2·3	109–	2	1·5
95–	9	6·8	111–	3	2·8
97–	7	5·3	113–	1	·8
99–	19	14·4	115–	2	1·5
101–	28	21·2	117–	1	·8

TABLE XI.

Frequency-distribution of Nose-lengths for the Khasis.

Nose-length in mm.	No.	P.c.	Nose-length in mm.	No.	P.c.
41–	1	·8	51–	36	27·3
43–	5	3·8	53–	11	8·3
45–	14	10·6	55–	7	5·3
47–	28	21·2	57–	1	·8
49–	27	20·4	59–	2	1·5

TABLE XII.

Frequency-distribution of Nose-breadths for the Khasis.

Nose-breadth in mm.	No.	P.c.	Nose-breadth in mm.	No.	P.c.
33–	1	·8	40–	15	11·4
34–	4	3·0	41–	6	4·5
35–	9	6·8	42–	13	9·8
36–	18	13·6	43–	4	3·0
37–	18	13·6	44–	0	0
38–	22	16·6	45–	1	·8
39–	21	15·9			

TABLE XIII.

Frequency-distribution of Orbito-nasal Diameters for the Khasis.

Orbito-nasal Diameter in mm.	No.	P.c.	Orbito-nasal Diameter in mm.	No.	P.c.
87—	1	·8	105—	10	7·6
89—	1	·8	107—	13	9·8
91—	3	2·3	109—	9	6·8
93—	10	7·6	111—	7	5·3
95—	16	12·1	113—	3	2·3
97—	14	10·6	115—	3	2·3
99—	17	12·9	117—	1	·8
101—	14	10·6	119—	2	1·5
103—	8	6·1			

TABLE XIV.

Frequency-distribution of Orbito-nasal Arcs for the Khasis.

Orbito-nasal Arc.	No.	P.c.	Orbito-nasal Arc.	No.	P.c.
99—	1	·8	119—	12	9·1
101—	2	1·5	121—	10	7·6
103—	5	3·9	123—	3	2·3
105—	10	7·6	125—	13	9·8
107—	5	3·9	127—	4	3·0
109—	18	13·6	129—	4	3·0
111—	13	9·8	131—	2	1·5
113—	9	6·8	133—	0	0
115—	15	11·4	135—	2	1·5
117—	4	3·0			

TABLE XV.

Frequency-distribution of Cephalic Index for the Khasis.

Cephalic Index.	No.	P.c.	Cephalic Index.	No.	P.c.
69—	3	2·3	79—	23	17·4
71—	9	6·8	81—	17	12·9
73—	16	12·1	83—	7	5·3
75—	21	15·9	85—	0	0
77—	34	25·7	87—	2	1·5

TABLE XVI.

Frequency-distribution of Altitudinal Index for the Khasis.

Altitudinal Index.	No.	P. c.	Altitudinal Index.	No.	P. c.
52—	1	·8	70—	18	13·6
54—	1	·8	72—	22	16·6
56—	1	·8	74—	18	13·6
58—	2	1·5	76—	15	11·4
60—	1	·8	78—	7	5·3
62—	5	3·9	80—	3	2·3
64—	7	5·3	82—	1	·8
66—	16	12·1	84—	1	·8
68—	13	9·8			

TABLE XVII.

Frequency-distribution of Facial Index for the Khasis.

Facial Index.	No.	P. c.	Facial Index.	No.	P. c.
72—	2	1·5	88—	18·5	14·0
74—	2	1·5	90—	11·5	8·7
76—	9	6·8	92—	3	2·3
78—	5·5	4·2	94—	3	2·3
80—	10·5	7·9	96—	2	1·5
82—	15	11·4	98—	1·5	1·1
84—	25	18·9	100—	·5	·4
86—	23	17·4			

Table XVIII.

Frequency-distribution of Zygomatico-mandibular Index for the Khasis.

Zygomatico-mandibular Index.	No.	P. c.	Zygomatico-mandibular Index.	No.	P. c.
63—	1	·8	75—	32·5	24·6
65—	2	1·5	77—	21	15·9
67—	6	4·5	79—	7	5·3
69—	10	7·6	81—	7	5·3
71—	17	12·9	83—	5	3·9
73—	21·5	16·3	85—	2	1·5

Table XIX.

Frequency-distribution of Nasal Index for the Khasis.

Nasal Index.	No.	P.c.	Nasal Index.	No.	P.c.
58—	1	·8	78—	11·5	8·7
60—	0	0	80—	13·5	10·2
62—	1	·8	82—	13·5	10·2
64—	3	2·3	84—	8·	6·1
66—	4·5	3·4	86—	7	5·3
68—	10·5	7·9	88—	2	1·5
70—	10·5	7·9	90—	0	0
72—	15·5	11·7	92—	1	·8
74—	14	10·6	94—	0	0
76—	14·5	11·0	96—	1	·8

TABLE XX.

Frequency-distribution of Orbito-nasal Index for the Khasis.

Orbito-nasal Index.	No.	P.c.	Orbito-nasal Index.	No.	P.c.
100—	1	·8	114—	21	15·9
102—	1	·8	116—	14	10·6
104—	2	1·5	118—	12	9·1
106—	10	7·6	120—	5	3·8
108—	14	10·6	122—	0	0
110—	25	18·9	124—	0	0
112—	26	19·7	126—	1	·8

TABLE XXI.

Variability of the Khasis as measured by me compared with that of the Khasis as measured by other Authors.

				Dixon.[1]			Waddell[2].		
	m.	σ	v	m.	σ	v	m.	σ	v
St.	1584·43 ±3·43	58·51 ±2·44	3·69 ±·15	1568·84 ±6·54	48·45 ±·462	3·08	1570·87 ±3·97	49·26 ±2·81	3·14
H.L.	189·55 ±·36	6·13 ±·25	3·23 ±·13	183·12 ±·62	4·62 ±·44	2·52	184·06 ±·37	4·59 ±·25	2·49
H.B.	147·68 ±·34	5·71 ±·24	3·86 ±·16	143·36 ±·60	4·42 ±·42	3·08	143·43 ±·35	4·39 ±·25	3·06
F.L.	114·47 ±·37	6·39 ±·27	5·57 ±·23	112·24 ±·69	5·11 ±·49	4·55			
F.B.	135·10 ±·31	5·31 ±·28	3 ·93 ±·16	133·16 ±·55	4·09 ±·55	3·07			
N.L.	49·84 ±·17	2·90 ±·12	5·81 ±·24	49·52 ±·58	4·27 ±·41	8·62	44·64 ±·24	3·04 ±·17	6·89
N.B.	38·35 ±·14	2·36 ±·10	6·15 ±·26	38·76 ±·62	4·62 ±·44	11·91	38·43 ±·18	2·29 ±·13	5·96
C.I.	77·81 ±·02	3·68 ±·02	4·72 ±·20	78·29 ±·44	3·23 ±·31	4·13	77·93 ±·22	2·68 ±·15	3·44
F.I.	84·73 ±·31	5·36 ±·22	6·33 ±·26	84·29 ±·49	3·55 ±·34	4·21			
N.I.	76·96 ±·38	6·53 ±·27	8·48 ±·35	78·27 ±1·00	7·44 ±·71	9·51	86·08 ±·61	7·63 ±·43	8·86

[1] *Man in India*, II, 1922, p. 1. [2] *J.A.S.B.*, LXIX, Pt. III, 1901, p. 1.

Comparison with the Materials of other Authors.

From Table XXI it will be seen that the mean stature in my series is greater than in Dixon's and Waddell's. It will be seen from Table XXII that the stature in this series varies from very short to tall with max. frequency (53%) at short stature, whereas in Dixon's and Waddell's series it varies from very short to medium, although in each case the maximum frequency is at short stature—in the present series 53%, in Dixon's 68% and in Waddell's 68·6%. But averages depending, as they do, on extreme items are often misleading and may sometimes give results which are nowhere warranted by the series. For this, the safest way of determining a type is by the maximum frequency. If we look to the maximum frequency, it will be seen that in each series, the maximum frequency (more than 50%) is bet. 1500-1599 mm. (*i.e.*, short) and this also is revealed by the averages.

From Table XXII it will be seen that the Khasis of the present series have bigger heads, both in length and breadth, than those of Dixon's and Waddell's series although the shape of the head remains practically the same as will be evident from the mean cephalic index in the three series.

In the shape of the face (length, breadth and index) there is practically no difference between the present series and Dixon's.

In the shape of the nose (length, breadth and index) there is a close agreement between this series and Dixon's, but Waddell's series differs in having a smaller nose-length and consequently a greater nasal index.

Thus it is seen that there is a close agreement between this series and Dixon's, the only difference being that Dixon's series has smaller heads.

Further analysing them into different groups on the basis of the combinations of cephalic and nasal indices I find results (*vide* Table XXIII) which are in close agreement with that of

TABLE XXII.

					Dixon.		Waddell.	
			No.	P.c.	No.	P.c.	No.	P.c.
Stature	Very short	1300—1499	6	4·5	2	8	2	1·9
	Short	1500—1599	70	53·0	17	68	48	68·6
	Below medium	1600—1639	29	21·9	5	20	16	22·9
	Medium	1640—1669	17	12·9	1	4	3	2·8
	Above medium	1670—1699	7	5·3			0	
	Tall	1700—1799	3	2·3			1	·9
Cephalic Index	Dolichocephalic	× —75·9	39	29·5	4	16	17	16·1
	Mesocephalic	76·0—80·9	66	50·0	16	64	45	42·7
	Brachycephalic	81·0—85·4	25	18·9	5	20	8	7·6
	Hyperbrachycephalic	85·5— ×	2	1·5	0		0	
Facial Index	Hypereuryprosopic	× —78·9	19	14·4	2	8	—	—
	Euryprosopic	79·0—83·9	26	19·7	11	44	—	—
	Mesoprosopic	84·0—87·9	47	35·6	8	32	—	—
	Leptoprosopic	88·0—92·9	31	23·5	4	16	—	—
	Hyperleptoprosopic	93·0— ×	9	6·8				
Nasal Index	Hyperleptorrhine	× —54·9	0		0		0	
	Leptorrhine	55·0—69·9	19	14·4	3	12	0	
	Mesorrhine	70·0—84·9	98	74·2	19	76	30	28·5
	Chamaerrhine	85·0—99·9	15	11·4	3	12	38·5	36·6
	Hyperchamaerrhine	100·0— ×	0				1·5	1·4

Dixon (*Man in India*, 1922, p. 2)—the order of importance is the same in both the series—the only difference being that I have got 3·8% of DL element and 1·5 of DP element whereas Dixon has got no DL or DP element.

But in completing the analysis, out of the two possible constituent elements—BL+DP and BP+DL of MM group—he

had preferred the former on the ostensible ground that he did not get any DL element. But as already pointed out I have got 3·5% of unblended DL element and 1·5% of unblended DP element. On the basis of this data, if I take the MM group as a mixture of BP and DL, I get a result (Table XXV) which is substantially different from that of Dixon, although taking MM = DP + BL my result agrees with that of Dixon (Table XXV).

TABLE XXIII.

			Dixon		Dixon and Waddell.	
	No.	P. c.	No.	P. c.	No.	P. c.
MM ...	49	37·1	12	48	40	38·8
DM ...	32	24·2	4	16	8	7·7
BM ...	17	12·9	3	12	4	3·3
ML ...	9	6·8	2	8	2	1·9
MP ...	8	6·1	2	8	27	26·2
BP ...	5	3·8	1	4	8	7·7
BL ...	5	3·8	1	4	1	·9
DL ...	5	3·8	...	...	...	...
DP ...	2	1·5	...	...	13	12·6

When MM = DP + DL.

TABLE XXIV.

		Dixon.
DP	16·7	36
BL	13·6	38
BP	31·8	14
DL	37·8	12

When MM = BP + BL.

TABLE XXV.

		Dixon.
DP	35·2	36
BL	32·1	38
BP	13·3	14
DL	19·3	12

In this connection I should like to pointout (*cf.* Table XXIII) that both in my series and that of Dixon, there is a good percentage of a dolichocephalic and leptorrhine element. As such it will not be wise to neglect this (DL) element. If I at all analyse my data according to Dixon's principle, which is of doubtful utility and is against the modern biological principle of inheritance, I shall have to take MM as a mixture, in varying proportions, between BP, DL, DP and BL, as all the four elements occur in unblended form in almost equal proportion, there being an equal chance of each contributing its quota. Thus 37·1 per cent. of MM should be equally distributed in the four elements mentioned above. On analysing both my data and Dixon's, I find the following results :—

		Dixon.
DL	28·6 %	24 %
DP	25·9 %	24 %
BL	22·9 %	26 %
BP	22·6 %	26 %

From the foregoing table it will be seen that there is not much difference between my series and that of Dixon. In both

the series, the DL element plays an important part and the other elements DP, BL and BP are almost of equal importance.

Further I might be allowed to point out that Haddon [1] gives the following physical characters for the Khasis—C. I. 78·6, N. I. 86·3, St. 1·569 m. For cephalic index and stature, he has followed Dixon, but for nasal index he has accepted the authority of Waddell, without any reason whatsoever.

Both Haddon and Dixon consider that the D. P. (pre-Dravidian according to Haddon and Negroid according to Dixon) is the earliest. I have no objection to this. I do not deny its presence. But I think that it played comparatively a minor part in the racial history of the Khasis, and what I am constrained to believe, on the presence of strong DL element, is that before the coming in of the BP (Pareoean) element from the Burma side, there was the coming in of a band of DL people whose evidence is met with in many parts of Further India, the last DL immigrants by way of the Ganges Valley not being so numerous and not so successful, as Dixon thinks, in modifying the racial complex. Is it that some other dolichocephalic leptorrhine element entered this region at a very early time ? Their contact with civilized society is not sufficient to explain the presence of such a strong dose of DL element, especially in the present series in which sufficient care was taken to eliminate persons who appeared to be cross-bred or whose origin was of a doubtful character.

Descriptive Characters.

A few words might be added regarding descriptive characters. Though more subjective and dependent on personal bias, their service in deciphering the racial history of a people cannot be overlooked.

The colour of the skin in the unexposed part of the body varies between 8 to 27, the majority (78·1%) being between 13 to 18 (*cf.* Von Luschan's Skin Colour Chart).

[1] *The Races of Man*, 1924, pp. 115-6.

From Tables XXX-XL, it will be seen that they are a straight-haired (63·6%) people with a good percentage of wavy (32·6%) hair. The hair-colour is black (86·6%) although reddish hair (6·1%) is sometimes met with. The hair growth on the head is medium (62·1%) but on the face it is scarce (55·1%) and on the eye-brow it is scanty (72·7%).

The eye-slit is horizontal (65·2%) although oblique eyes (30·4%) in which the external canthi are higher and the Mongolic fold (19·6%) are met with. The colour of the iris varies from brown (45·5%) to light brown (53·0%) and the colour of the conjunctiva is, in the majority (65·9%) of cases, dirty or reddish yellow although cases are not rare where the colour of the conjunctiva is either bluish (10·6%) or nearly white (12·1%) or yellowish (11·4%).

The forehead is moderately high (65·2%) and broad (70·5%), although it is not uncommon to meet with high (29·5%) and broad (20·4%) ones. It is generally vertical (64·4%) and in some cases a slight retreat (31·8%) is noticeable.

The supra-orbital ridges are not marked and remain as a trace (75·0%) in a majority of the cases.

The nose is generally moderately concave (56·8%) although straight noses (35·6%) are not an infrequent occurrence. The nasion depression is shallow (53·8%) although there is a good percentage (34·1%) of deep root. The nasal septum is horizontal (82·6%).

The malars are, in the majority of cases, moderately prominent (68·2%) and small in size ; (83·3%) although it is not uncommon to meet with persons with pronounced (24·2%) malars and of medium size (12·1%).

There is no alveolar prognathism (84·9%). Lips are either medium (63·6%) or thin (31·%) with no eversion (98·5%).

The chin is of ordinary form (64·4%). Sometimes pointed (19·7%) and square (13·6%) chins are met with. The angle of the lower jaw is medium (89·4%).

Table XXVI.

Hair.

	Quantity.				Character.			Colour.			
	Scanty.	Normal.	Medium.	Thick.	Straight.	Wavy.	Curly.	Black.	Rusty black.	Red.	Light brownish red.
No.	14	12	82	24	84	43	...	114	5	8	3
1	10·6	9·1	62·1	18·1	63·6	32·6	...	86·4	3·9	6·1	2·3

Table XXVII.

Moustache and Beard.

	Quantity.		Character.				Colour.			
	Scarce.	Medium.	Thick.	Straight.	Wavy.	Curly.	Black.	Rusty black.	Red.	Light burnish red.
No.	76	35	6	82	27	...	79	4	27	4
P. c.	55·1	26·5	6·1	62·1	20·4	...	59·8	3·0	20·4	3·0

Table XXVIII.

Eye-brows.

	Scanty.	Medium.	Bushy.	Connected.
No.	92	31	1	12
P. c.	72·7	23·5	·8	9·1

TABLE XXIX.

Eye-slits.

	Horizontal.	Oblique.						Mongolic Fold.	
		Ext. Canthi higher.			Ext. Canthi lower.				
		Sl.	Mod.	Marked.	Sl.	Mod.	Marked.	Sl.	Mod.
No.	86	20	20	...	...	9	...	13	13
P. c.	65·2	15·2	15·2	...	...	6·8	...	9·8	9·8

TABLE XXX.

Eye Colours.

	Iris.			Conjunctiva.			
	Brown.	Light Brown.	Blue.	Bluish.	Pearly white.	Yellowish.	Disky or reddish yellow.
No.	60	70	1	14	16	15	87
P. c.	45·5	50·0	·8	10·6	12·1	11·4	65·9

TABLE XXXI.

Forehead.

	Height.			Breadth.			Retreat.			
	Low.	Medium	High.	Narrow.	Medium.	Broad.	None.	Slight.	Moderate	Pronounced.
No.	6	86	39	10	93	27	85	42	6	...
P. c.	4·5	65·2	29·5	7·6	70·5	20·4	64·4	31·8	4·5	...

Table XXXII.

Supra-orbital Ridges.

	Imperceptible.	Traces.	Slight.	Moderate.	Pronounced.
No.	18	99	11	2	1
P.c.	13·6	75·0	8·3	1·5	·8

Table XXXIII.

Nasion Depression.

	Shallow.	Medium.	Deep.	Narrow.
No.	71	2	45	13
P.c.	53·8	1.5	34·1	9·8

Table XXXIV.

Nasal Bridge.

	Straight.	Concave.			Convex.			Concavo-convex.
		Slightly.	Moderately	Markedly.	Slightly.	Moderately	Markedly.	
No.	47	...	75	...	2	5	...	3
P.c.	35·6	...	56·8	...	1·5	3·9	...	2·3

TABLE XXXV.

Nasal Septum.

	Horizontal.	Directed upward.			Directed downward.		
		Slightly.	Moderately.	Markedly.	Slightly.	Moderately.	Markedly.
No.	109	4	5	...	2	12	...
P.c.	82·6	3·0	3·9	...	1·5	9·1	...

TABLE XXXVI.

Malars.

	Prominence.				Size.		
	None.	Slight.	Medium.	Pronounced.	Small.	Medium.	Large.
No.	4	7	90	32	110	16	...
P.c.	3·0	5·3	68·2	24·2	83·3	12·1	...

TABLE XXXVII.

Alveolar Prognathism.

	None.	Small.	Medium.
No.	112	7	...
P.c.	84·9	4·5	...

Table XXXVIII.

Lips.

	Thickness.				Eversion.	
	Thin.	Medium.	Above medium.	Thick.	Slightly present.	Absent.
No.	41	84	2	5	2	130
P.c.	31·1	63·6	1·5	3·9	1·5	98·5

Table XXXIX.

Chin.

	Prominence.	Form.		
		Ordinary.	Square.	Pointed.
No.	...	85	18	26
P.c.	...	64·4	13·6	19·7

Table XL.

Angles of the Lower Jaw.

	Sub-medium.	Medium.	Prominent.
No.	1	118	5
P.c.	·8	89·4	3·9

VITAL CAPACITY OF THE BENGALI STUDENTS

BY

DR. ANATHNATH CHATTERJI, M.B.B.S.

The importance of vital capacity as a measurement for routine examination was stressed as far back as 1919 by Dryer in his article "The Normal Vital Capacity in Man" (August, 1919, *Lancet*). "From a consideration of the results arrived at," said Dryer, "it seems likely that systematic measurements of the vital capacity and various body measurements in adults and adolescence in different trades and occupations and in different ranks of life will afford most important information from the point of view of national health and will throw light upon the value of such measures as may be contemplated for the improvement of the general health and well-being of the people."

John Hutchinson, who introduced the spirometer and studied the relationship of vital capacity with various body measurements, formulated the following rule :—

"For every inch in height from five feet to six feet eight additional cubic inches of air at 60° F. are given out by force expiration."

He further stated that the correlation with other bodily measurements such as weight, circumference of chest, etc., did not give satisfactory results.

Lundsgaard and Van Slyke, studying a series of 18 normal men and women, found that the vital capacity vary more closely with the calculated chest volume than with height.

Dryer maintained that vital capacity was a function of weight and used the following formula for calculating a constant :—

$$\frac{w^n}{\text{vital capacity}} = k$$

where w is the net weight of the body in grams, the vital capacity is expressed in ccm. and the power n is equal to 0·72. The average value of k was 0·690.

West used a standard based on body surface area and showed that the vital capacity varies with this function more uniformly than with others. The formula used was

$$\frac{\text{vital capacity in litres}}{\text{the body surface area in sq. meters}}$$

and the calculated index was found to be 2·61 for men. West further computed the values for the direct ratio between the vital capacity and height, and the average for the men was found to be 26·5, but the value 25 was arbitrarily chosen as being, for practical purposes, near to the normal for the average.

Peabody and Wentworth published the following averages for normal adults and stated that in normal people the vital capacity is at least 85% and almost always 90% or more of the standard adopted for each group :

TABLE NO. I.

Group	Number studied	Height in feet and inches	Normal Vital Capacity in cc.	Number with in 10 % of normal	Number below 90% of normal
I	14	6′ +	5,100	9	0
II	44	Over 5′—8½″ to 6′	4,800	41	0
III	88	5′—3″ to 5′—8½″	4,000	31	1

The determination of the normal vital capacity for Indians has not received that attention which the importance of the

subject well deserved. In the Report of the Students' Welfare Committee for 1924, I published the averages for the vital capacity of Bengali students between the ages 15 and 22 as determined by an examination as of over 2500. These figures, together with the averages for height, weight, chest circumference, and chest expansion for the different age-groups, were republished in the volume *First Studies on the Health and the Growth of the Bengali Students*, published by the Calcutta University, 1932.

In 1928, Prof. S. L. Bhatia read a paper on the vital capacity of 100 students at the Medical Section of the Indian Science Congress.

In 1931, Prof. J. N. Mukherji in his paper on Basal Metabolism, gave the vital capacities of 14 Bengali medical students and computed the relation with the body surface area as equal to 2·225.

In 1932, Krishnan and Vareed published the following figures based on a study of 103 South Indian medical students: "The average vital capacity for all the subjects examined is found to be 2·93 l., 1·85 l. per square meter of body surface area, and 17·5 cc. per centimeter of standing height." It is considered that for finding the normal vital capacity, the standards based on age, body surface, standing height and chest expansion should be taken note of.

Amongst South Indian women the average vital capacity was found to be 75% lower than for Europeans.

During the year 1933 I took up the study of the subject again and recorded the vital capacity of 1,978 fresh students together with certain body measurements.

In the following table are shown the averages of height, weight, body surface area, chest circumference, chest expansion, vital capacity and certain vital capacity constants, computed from the data collected, together with their standard deviations.

Table showing influence of Age on Vital Capacity and Vital Capacity Constants.

Age.	No. of students.	Height in cm.	Weight in kg.	Body surface in sq. m.	Chest.		Vital capacity in l.	$k_1 = \frac{\text{V.C. in cc.}}{\text{Ht. in cm.}^{2.5}}$	$k_2 = \frac{\text{V.C. in l.}}{\text{S. in sq. m.}^{2.5}}$	$k_{2.72} = \frac{\text{(Wt. in gm.)}^{.72}}{\text{V.C. in cc.}}$	$k_4 = \frac{\text{Ch}^2}{\text{V.C. in cc.}^{.68}}$
					Circumference in cm.	Expansion in cm.					
8	41	122·5±6·3	21·7±3·5	0·87	58·5	3·5	1·03±·26	8·40±1·70	1·18±·190	1·285±·385	3·323
9	42	127·0±6·1	23·1±3·7	0·90	57·2	3·7	1·13±·26	8·89±1·66	1·25±·175	1·227±·251	2·895
10	143	132 ±6·4	24·9±4·0	0·98	61·6	3·7	1·20±·29	9·09±1·79	1·22±·187	1·219±·307	3·162
11	156	135 ±7·0	27·1±6·4	1·04	63·8	4·6	1·34±·36	9·92±2·205	1·29±·208	1·161±·257	3·040
12	192	142 ±7·4	30·9±6·9	1·12	66·2	4·4	1·46±·39	10·28±2·27	1·30±·204	1·169±·355	2·993
13	170	147 ±7·6	34·5±6·5	1·21	68·7	4·4	1·71±·40	11·63±2·16	1·41±·184	1·061±·185	2·820
14	211	154 ±8·1	39·3±6·7	1·31	71·9	4·5	2·01±·47	13·05±2·39	1·53±·204	1·012±·201	2·572
15	210	161·5±7·56	46·6±7·7	1·475	75·5	4·7	2·50±·57	15·47±2·85	1·69±·22	·905±·176	2·275
16	261	164·0±6·44	50·1±8·6	1·53	78·6	4·7	2·80±·52	17·07±2·54	1·83±·16	·890±·105	2·264
17	189	165·0±5·60	51·9±7·6	1·56	80·4	4·6	3·00±·51	18·18±2·50	1·92±·17	·885±·105	2·154
18	183	166·0±6·25	52·4±6·2	1·58	80·6	4·6	3·03±·48	18·25±2·25	1·92±·13	·882±·101	2·144
19	83	166·0±5·5	15·2±6·5	1·56	80·9	4·6	3·05±·54	18·55±2·67	1·97±·13	·876±·090	2·125
20	67	165 ±5·3	52·3±6·3	1·57	81·3	4·7	3·00±·50	18·18±2·50	1·91±·18	·882±·101	2·203

N.B.—The figures in italics give the mean values for American and European students.

An inspection of the above table will show that—

(1) the average vital capacity of Bengali college students between the ages 17 and 20 is 3·0 l.±·50 l., 1·9 l.±·18 l. per sq. m. of body surface, and 18·18 cc.±2·5 cc. per cm. of standing height;

(2) the vital capacity increased steadily with age, height, weight, body surface area, chest circumference, and less regularly with chest expansion;

(3) the vital capacity constants for the different age-groups are different and vary so widely that it is not possible to select any representative value for any constant;

(4) of the different constants computed, the direct ratio between the vital capacity and the body surface area varies the least and shows a more or less regular gradation;

(5) and lastly, vital capacity as a measure is extremely variable, the range of variation being 16% to 22%.

A separate memoir on the vital capacity of the Bengali students, its inter-relationship with various physical measurements and variations in disease is under preparation and will be published shortly.

OS MALARE BIPARTITUM IN BENGALI CRANIA.

BY

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The occurrence of Os malare bipartitum, otherwise known as Os Japonicum, is so rare in Indian crania that a record of one or two instances of its occurrence may be justified. In 2 out of 9 crania recently added to our museum, the zygomatic bone is found to be totally divided on both sides, by a transverse inter-zygomatic suture, termed also as Sutura Japonica by A. Posnansky[1] or Sutura Malaris by Hans Virchow[2] In one

FIG. I. Dioptographic tracing of the zygomatic bone showing "Os Japonicum." (Actual size.)

[1] Posnansky, A., Signos Mongoloides en Algunos tipos etnicos del Altiplano Andino. Estudio presentado ante el segundo Congres Panamericano, Washington, 1915-1916, p. 3.

[2] Virchow, Hans, Einen Schädel mit ungewöhnlichen Os Malare bipartitum, Zeitschrift für Ethnologie, 1926, p. 178.

instance, however, though the inter-zygomatic suture is obliterated in the major portion of the bone, yet it can be easily detected on account of the distinct traces of the suture in both ends. These skulls belong to the Muchis, a very low-caste people of Bengal, and have been collected by Prof. H. C. Chakladar from Bongong, a sub-divisional town in the district of Jessore. The cranial and nasal indices of these two crania are 71·0 (C. 1), 47·9 (N. 1) ; 74·8 (C. 1), 57·7 (N. 1). In one skull, however, there is a complete synostosis of the internasal suture.

Its rarity can be attested from the frequency of its occurrence in different races which is as follows :—

974	Japanese ...	...	3·2 per cent.	
4500	Russian ...	...	0·5 ,,	
5000	European (in general)	...	0·3 ,,	
800	French ...	...	0·1 ,,	
3192	North American Indians	...	0·2 ,,	[1]
180	Lapps ...	...	1·1 ,,	[2]
127	Burmese ...	...	0·3 ,,	[3]
20	Tihuanacu crania	...	1 case	[4]

Besides these, 2 instances have been found in Negro crania [5] and 1 instance in Turfan crania.[6] It has also been noted in a prehistoric Indian cranium collected from the province of Jujuy.[7]

[1] Martin, Rudolf, Lehrbuch der Anthropologie, Band II., Jena, 1928, p. 956.

[2] Niemi, T., Anthropologische Untersuchungen über das Jochbein der Lappen, Annales Academiae Scientiarum Fennicae, Series A, Vol. 35. Helsingsfors, 1931.

[3] Tildesley, M. L., A First Study of the Burmese Skull, Biometrika, Vol. XIII, p. 234.

[4] Posnansky, A., *op. cit.*, p. 3.

[5] Martin, Rudolf, *op. cit.*, p. 956.

[6] Virchow, Hans, *op. cit.*, p. 177.

[7] Vignati, M., Un caso de bipartiticion total del hueso malar. Notas Preliminaries del Museo de La Plata, Vol. I, Buenos Ayres. 1931.